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MEDICAL USES OF FLOWERING PLANTS IN THE GAMBIA

DEPARTMENT OF FORESTRY

G.O. HALLAM

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Pages / Sr Health Supt.
Ministry of Health
Banjul 1979

A report on

the different preparations

of various plants found in The Gambia

for bush medicine practices and some other uses.

G.M.HALLAM

DEPARTMENT OF FORESTRY

YUNDUM

July 1979

Price: D15.00

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ABBREVIATIONS USED

cm	= centimetre
F	= Fula
Flora	= Flora of West Tropical Africa
J	= Jola
lit.	= literally
M	= Mandinka
m	= metre
M.I.D.	= McCarthy Island Division
mm	= millimetre
U.R.D.	= Upper River Division
V.D.	= Venereal Disease
W	= Wolof

INTRODUCTION

The information in this book was first collected in bits and pieces in December 1977 and the early part of 1978 in response to a need for a plant reference booklet for the Department of Forestry.

At that time I was concerned with familiarizing myself with the flora of The Gambia. Due to lack of transport, I was confined in my investigations to the Kombo Region where I was based at Yundum (Kombo North). However, I made two extended treks of four and five weeks' duration in the Provinces. The first of these I made in June and July 1978 to Saruja village, near Sapu in McCarthy Island Division. An intermediate report ('Flowering plants of The Gambia and some local uses', BPMRU Banjul) was made following this trip. Later, in March and April 1979, I made another trek to Basse in Upper River Division. Thus three different areas of The Gambia have been covered and the treks have also been supplemented with several day excursions and private visits to the Provinces during which notes were taken. The main villages and towns which are mentioned in the following text are marked on a map of The Gambia to be seen on page 14.

The time available, and the limited number of journeys that I made, has not enabled me to obtain anywhere near a complete list of Gambian flora and its uses. A great deal of work still needs to be done! For instance, there has been very little identification of the grass family (apart from the grain crops), the Monocotyledons, ferns, mosses and fungi.

This booklet supplies details on vernacular names, characters of plants, and their uses where known. As I proceeded with collecting botanical information, I found that local people would tell me snippets concerning the medicinal uses of a plant. It seemed that there could be practical applications for this gathered knowledge so that I made a special effort to note down all the uses mentioned. The comments on the uses have largely been left unchanged in the form that they were translated for me from the vernacular, except to put the sentences into a logical order and to correct the grammar where necessary. The length of some of the descriptions of plants and their uses has forced me to shorten these in some cases. Technical botanical terms have been kept to a minimum and are either explained in the text or are defined in the 'Glossary of botanical terms' on page 8.

The choice of species selected from each family is generally based on the amount of information on the uses which I collected. Other species were included if they showed special features of interest.

Notes taken from books that I consulted were included where relevant. A list of these references can be found on page 192.

ACKNOWLEDGMENTS

This report is based on information collected over one and a half years whilst I was working with the Department of Forestry. I would like to express my gratitude to Mr R J McEwan, Conservator of Forests, for his encouragement and the Staff of the Department especially Momodou Suwareh, Forest Guard, for their assistance.

My thanks to Dr F J Oldfield for some useful and thought-provoking discussions.

Mr A C E Jarvis, British Council Science Education Adviser, deserves particular credit for his time and enthusiasm in typing the manuscript and to a large extent in helping to edit and arrange the script as a member of the Book Production and Material Resources Unit at Bishop's Court, Banjul.

The illustrations were drawn by artists: Mrs Suzanne Jobateh and Mr Saihou Njie, and were scanned at E.A.U. Yundum. The cover was designed and drawn by Mr K Warma.

Finally, I would like to thank the Royal Botanic Gardens at Kew in London for permission to quote from their literature.

NOTES ABOUT THE COMPILATION OF THIS BOOKLET

An aid to beginners.

Those people taking a sincere interest in plants for the first time would find a 'Flora' extremely difficult to use when identifying plants, even if they had access to one.

Gambian villagers have their own ways of identifying plants to their satisfaction, though they do not always examine the flower and fruit in the first place, which is the scientific method.

There is an increasing illustrated literature of Gambian plants by which people can compare their specimens with the pictures they have in front of them instead of ploughing through a 'Flora'.

Another way to tackle the identification problem is to make use of vernacular names and compare the names with lists already compiled. Although this is quick and convenient, it can, in some cases, be misleading: the reasons for this are explained in the next section.

Vernacular names.

Names of plants in the vernacular can become very confusing, especially when one name is given to several different plants either of the same genus or of other genera: or when one individual is known by several different names within the same language due to regional variation.

It seems that the best people to ask about plant names are those who live and work in the countryside (or have done so) such as hunters and old foresters. When asking for a vernacular name of a plant from any person, I have found that to ask some supplementary questions can be most helpful. These may take the following forms:

A) The tribe of the person and the language in which he or she is giving the vernacular name(s).
B) The area in which he or she got to know their plants.
C) The person's name, occupation, village and the date.

Time of year to collect information:

During the rainy season from June (in 1978 and 1979, the rains began in early June) to November, people are busy in the fields and have little time to stop and chat in the day time. The dry season is, therefore, a better time of year (except for annual herbs which mature towards the end of the rains) for collecting. However, it is unusual to find plant specimens with flower and mature fruit at the same time. To complete the description of a plant may take a long time since it may be necessary to revisit a site several times.

The illustrations and colour slides.

Unfortunately the artists were not available until late in the compilation of this booklet, so that the choice of subjects drawn very much depended upon what was available at the time (May - July, 1979).

A set of slides, taken over a year or so, has been produced to go with a card index set. Several of the slides available are of specimens mentioned in this booklet. These slides remain with the Conservator of Forests, Yundum.

Appendix.

By way of introduction, I mentioned that this report represented only a selection of the useful plants to be found in The Gambia. There still remains on file as many more plants again which I have not managed to 'key out' at the time of going to press. For the benefit of future workers and interested persons, I have inserted a further fifteen plants with uses in Appendix 1 on page 193. These are listed in alphabetical order of the Mandinka vernacular (where possible).

Topics not dealt with in this booklet.

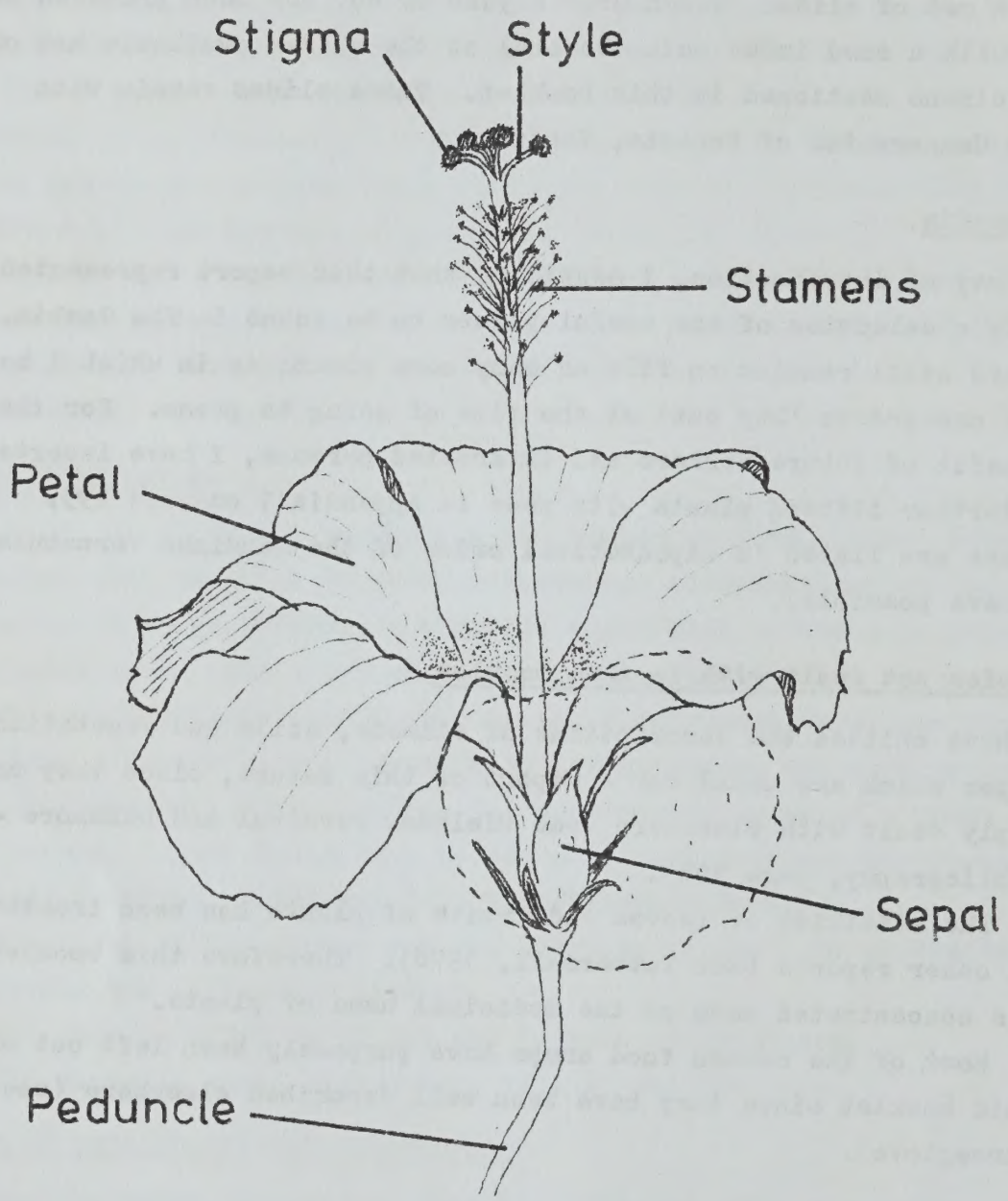
I have omitted the descriptions of climate, soils and vegetation types which are usual for a report of this nature, since they are amply dealt with elsewhere (see Nielson, Percival and Dunsmore - bibliography, page 192).

The edibility of leaves and fruits of plants has been treated in other reports (see Tattersall, 1978). Therefore this booklet has concentrated more on the medicinal uses of plants.

Most of the common food crops have purposely been left out of this booklet since they have been well described elsewhere (see Purseglove).

Parts of a flower

Labelled diagram of Hibiscus flower



GLOSSARY OF TERMS

(In alphabetical order, with labelled illustrations of a flower and of leaf types on pages 8, 10 and 12).

* * * * * * *

ACHENE: A small dry fruit, not splitting when ripe, containing a single seed.

ACUMINATE: Narrowly pointed. See drawing on page 10.

ACUTE: Pointed. See drawing on page 10.

ALTERNATE: At different levels along the branch. See drawing on page 10.

ANTHERS: Pouches which contain pollen at the end of the filament.

AURICLE: An ear-like lobe at the base of the leaf. See drawing on page 10.

AXIL, AXILLARY: The angle between the leaf and the branch.

BEAKED: A curved appendage at the end of a fruit.

BERRY: A juicy fruit with seeds embedded in a pulp.

BIPINNATE: When the branches of a compound leaf are themselves divided into pinnae. See drawing on page 12.

BISEXUAL: Having both sexes in the same flower.

BRACT: A small leaf surrounding a flower or flower-stalk.

BRISTLES: Long, stiff hairs.

CALYX: The ring of sepals which may be free or joined to one another.

CAPSULE: A dry fruit composed of two or more joined pistils and splitting when ripe into sections called valves or opening by slits or pores.

CARPEL: Essentially the female part of the flower.

COMPOUND: Composed of several parts.

CORDATE: Deeply notched leaf base. See drawing on page 10.

COROLLA: The inner ring of petals which may be free or fused to form a tube.

CUNEATE: Wedge shaped. See drawing on page 10.

CYME: An inflorescence in which the central flower opens first and the first branches at least are usually forked.

DIGITATE: A compound leaf with leaflets like the fingers of a hand. See drawing on page 12.

DRUPE: A succulent fruit with a stone at the centre. E.g. Mango.

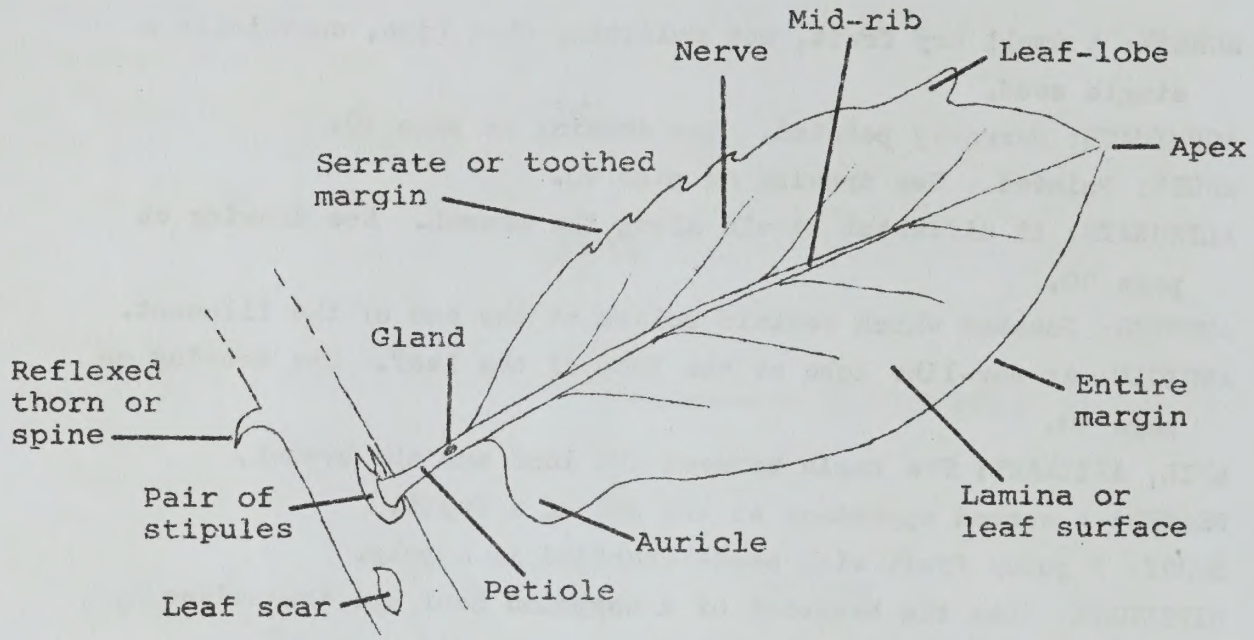
ELLIPSOID: A three-dimensional elliptical object.

ELLIPTICAL: Rounded, but not a circle. See drawing on page 10.

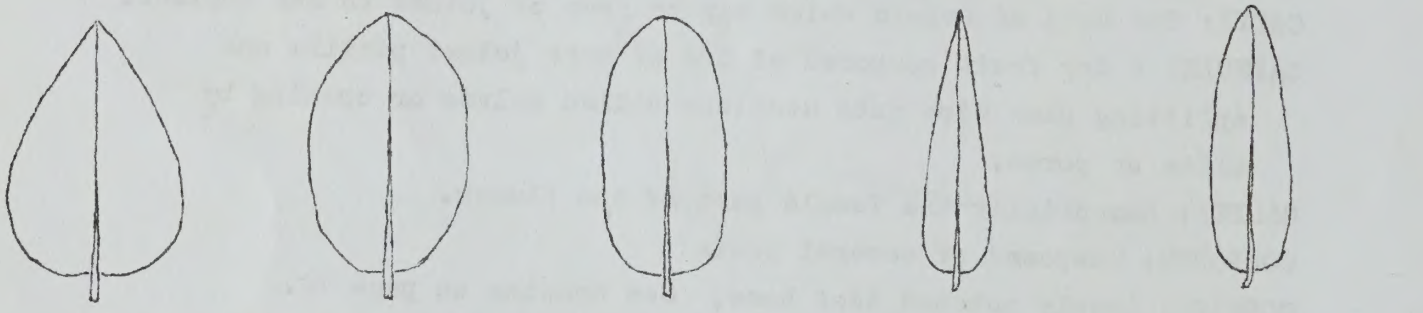
ENTIRE: An even margin without teeth or lobes. Drawing, page 10.

FILAMENT: The stalk of the stamen supporting the anther.

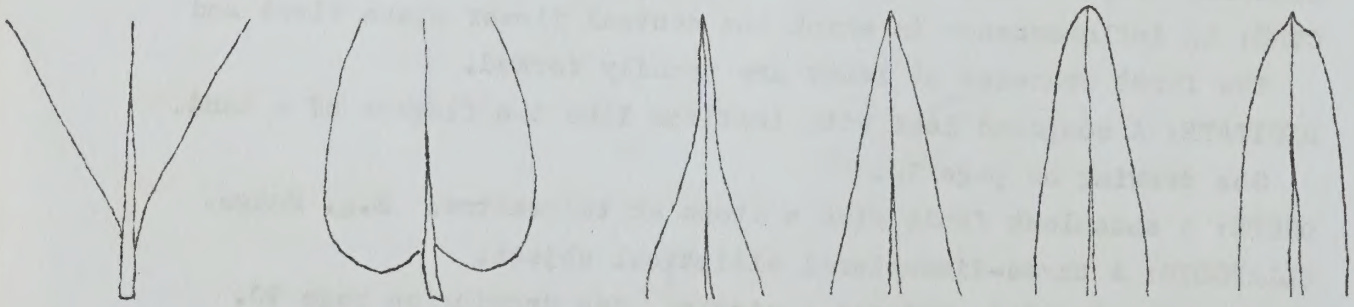
Parts of a generalized simple leaf and branch



Illustrations of leaf shapes, leaf tips and leaf bases



Ovate Elliptic Oblong Lanceolate Oblong-lanceolate



Cuneate Cordate Acuminate Acute Obtuse Mucronate

FLORET: A single flower.

FOLIATE: Having florets.

FOLLICLE: A pod consisting of one carpel opening along one inner line.

FUNICLE: The little cord which attaches the unfertilized seed to the placenta.

GLABROUS: Without hairs.

GLAND: A raised bump or rod on the surface of a leaf or a secreting structure on the surface or embedded inside the leaf. See page 10.

GLAUCOUS: Pale bluish-green or with a pale bloom.

IMPARIPINNATE: Pinnate with an odd terminal leaflet. See page 12.

INDUMENTUM: Any covering such as hairs, wool or scales.

INFLORESCENCE: The arrangement of flowers on a plant.

INVOLUCRE: A number of bracts surrounding the base of a flower head.

LAMINA: The flesh of the leaf.

LANCEOLATE: Narrowly rounded. See page 10.

LEAF-GALL: A deformation of a leaf, or leaf surface, caused by the presence of a gall-wasp.

LEAFLET: A smaller part of a leaf.

LEAF-SCAR: The mark left behind on a branch after a leaf falls off.

LIGULE: 1) The thin membranous part at the top of a leaf sheath.
2) The limb of ray-flowers in the family Compositae.

LOBE: An expanded area of tissue.

MID-RIB: Central line of a leaf. See drawing on page 10.

MUCRONATE: Ending in an abrupt tip. See drawing on page 10.

NERVES: Branching ribs from the mid-rib. See drawing on page 10.

NODE: The point on a stem or branch at which a leaf is borne.

OBLANCEOLATE: Reverse of lanceolate.

OBLONG: Long, but rounded at each end. See drawing on page 10.

OBOVATE: Ovate with broadest part above.

OBTUSE: Blunt or rounded at the end. See drawing on page 10.

OPPOSITE: Where two leaves are borne at the same node. See page 12.

ORBICULAR: Flat, with a more or less circular outline.

OVATE: Egg shaped. See drawing on page 10.

PALMATE: Divided into segments like the palm of a hand.

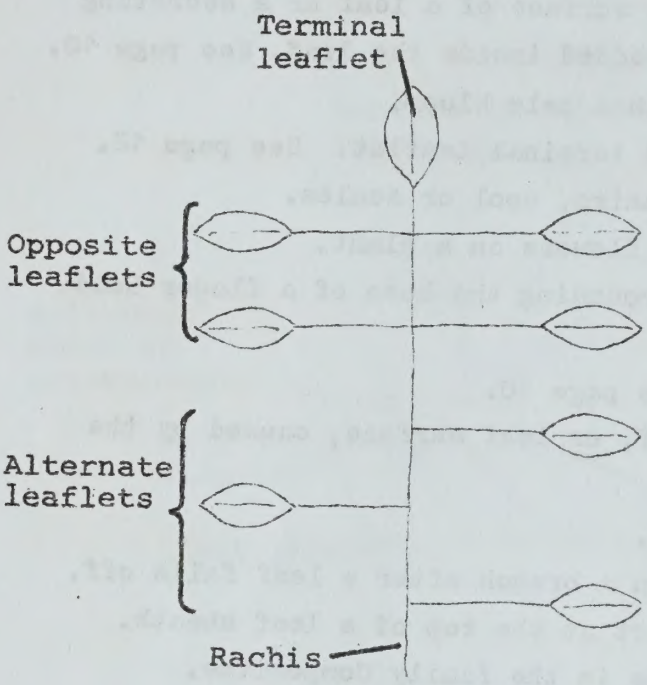
PANICLE: An inflorescence in which the axis is divided into branches bearing several flowers.

PAPPUS: A ring of hairs or scales around the top of the fruit in the family Compositae.

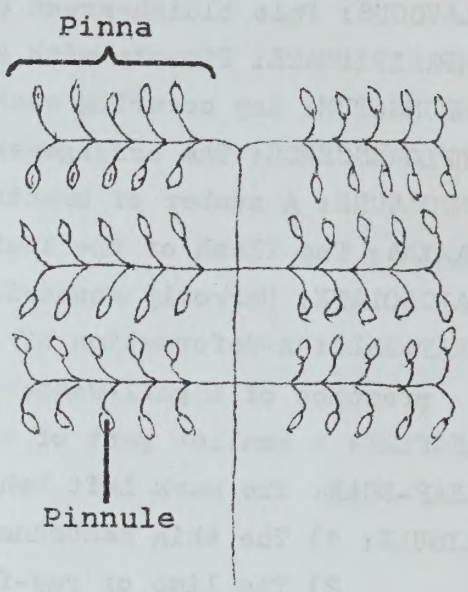
PEDUNCLE: General name for a flower-stalk. See drawing on page 8.

PERSISTENT: Retained for a long time.

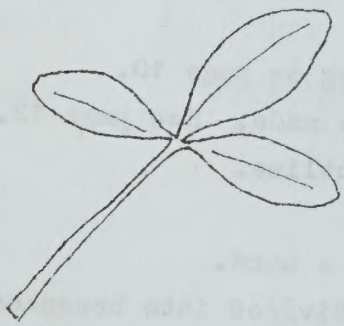
Types of compound leaves



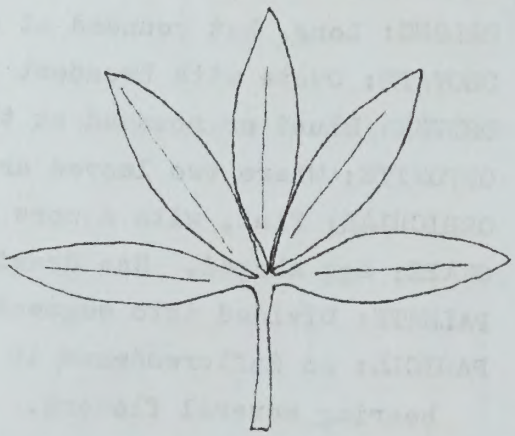
GENERALIZED IMPARIPINNATE LEAF



GENERALIZED BIPINNATE LEAF



TRIFOLIATE LEAF
(e.g. Erythrina senegalensis page 101)



DIGITATE LEAF
(e.g. Bombacaceae family page 50)

PETIOLE: The stalk of a leaf. See drawing on page 10.

PINNA: The first division of a pinnate leaf. See drawing on page 12.

PINNULE: The second or third division of a pinnate leaf.

PLACENTA: Part of the ovary to which the unfertilized seeds are attached.

POD: A dry fruit which splits open.

QUADRANGULAR: Four sided.

RACEME: An inflorescence in which the flowers are borne on flower stalks along an individual axis or peduncle.

RECEPTACLE: The top of the peduncle upon which all other flower parts are inserted.

REFLEXED: Curved or turned back.

RETICULATE: When the smallest veins of a leaf are connected together like the meshes of a net.

RHACHIS: The petiole and mid-rib of a compound leaf. See page 12.

SAMARA: A fruit with one seed that does not split open and is provided with a wing.

SCABRID: Rough to the touch due to the presence of short, harsh hairs.

SCANDENT: Long, thin and bowing.

SEPAL: A part of the calyx. See drawing on page 8.

SERRATE: Toothed like a saw.

SESSILE: Without a stalk.

SHEATH: The lower portion of the leaf clasping the stem.

SIMPLE: A leaf which is not divided into leaflets. See page 10.

SINUOUS: Wavy.

SPIKE: Sessile flowers arranged along an unbranched stem.

STAMEN: The filament and anther together. See drawing on page 8.

STIGMA: The area at the top of the style which receives pollen.

STIPULE: Small leaf-like or scale-like appendages of a leaf, usually at the base of a petiole. See drawing on page 10.

STYLE: The narrow upper part of the ovaries supporting the stigma.

SYMMETRICAL: Equally balanced on either side of a central axis.

TENDRIL: A spirally coiled appendage.

TOMENTOSE: Densely covered with short hairs.

TRIANGULAR: Three sided.

UNDULATE: Wavy on the margin.

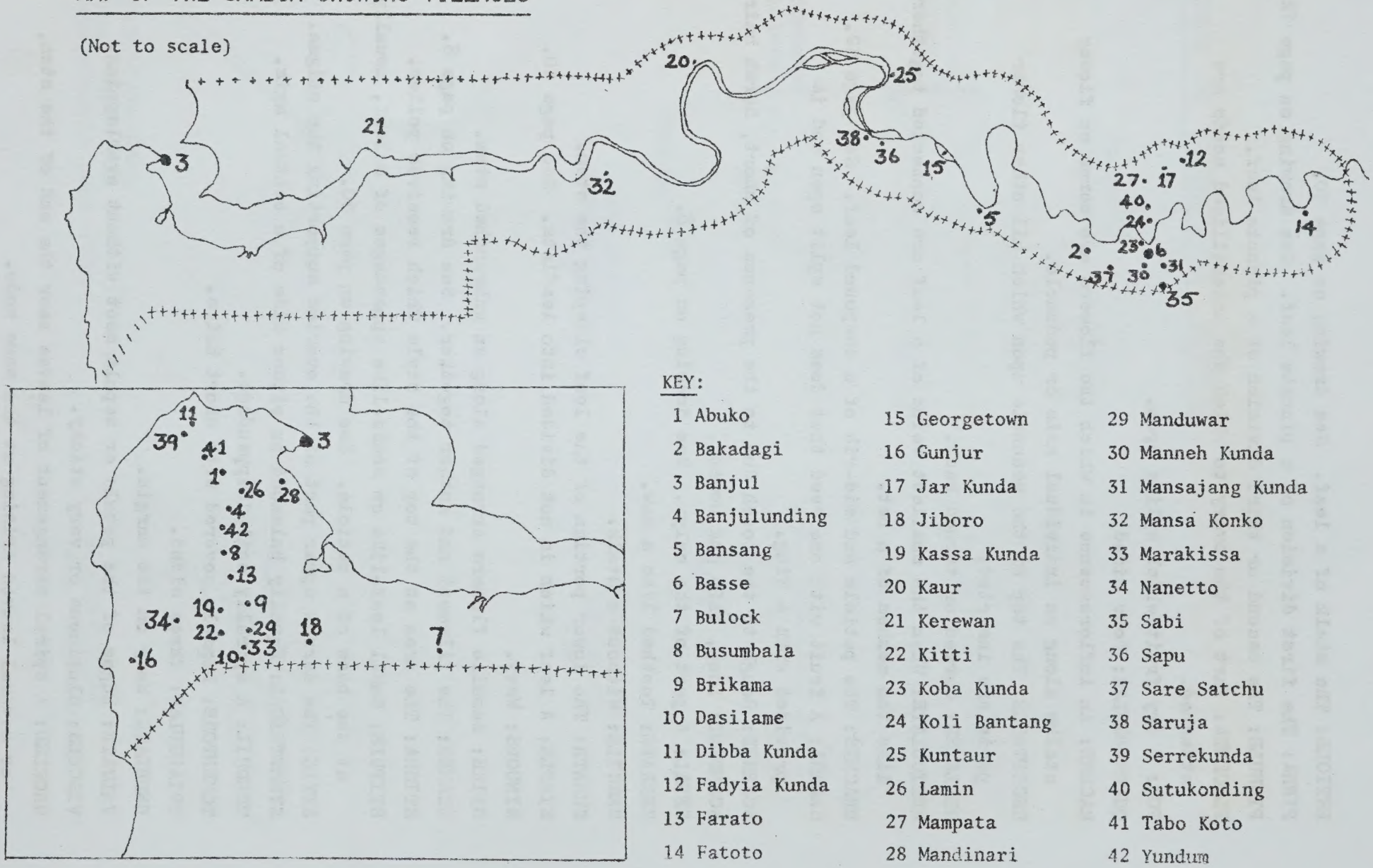
VALVATE: Edges of the petals or sepals meet without overlapping.

VISCOUS: Glutinous or very sticky.

WHORLED: A spiral arrangement of leaves near the end of the stem, or several leaves arising at the same node.

MAP OF THE GAMBIA SHOWING VILLAGES

(Not to scale)



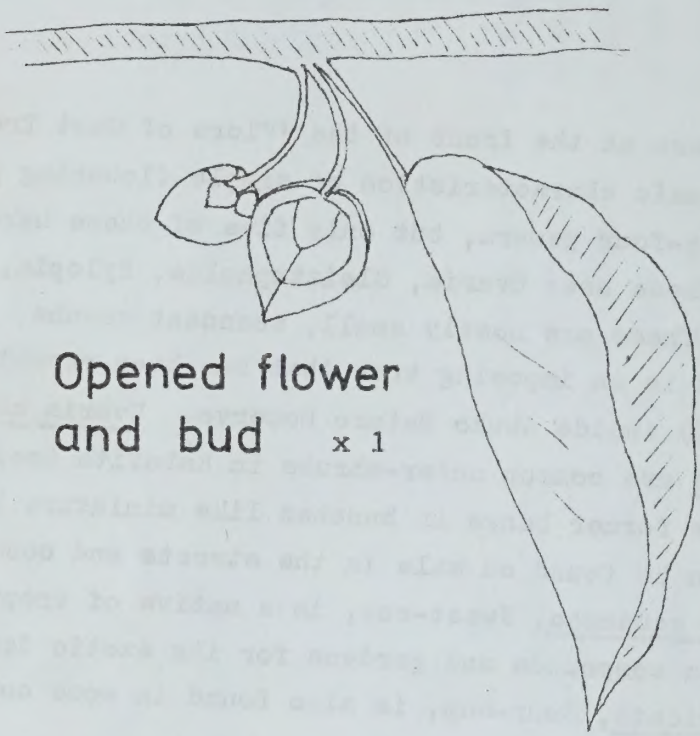
KEY:

1 Abuko
2 Bakadagi
3 Banjul
4 Banjulunding
5 Bansang
6 Basse
7 Bulock
8 Busumbala
9 Brikama
10 Dasilame
11 Dibba Kunda
12 Fadyia Kunda
13 Farato
14 Fatoto
15 Georgetown
16 Gunjur
17 Jar Kunda
18 Jiboro
19 Kassa Kunda
20 Kaur
21 Kerewan
22 Kitti
23 Koba Kunda
24 Koli Bantang
25 Kuntaur
26 Lamin
27 Mampata
28 Mandinari
29 Manduwar
30 Manneh Kunda
31 Mansajang Kunda
32 Mansa Konko
33 Marakissa
34 Nanetto
35 Sabi
36 Sapu
37 Sare Satchu
38 Saruja
39 Serrekunda
40 Sutukonding
41 Tabo Koto
42 Yundum

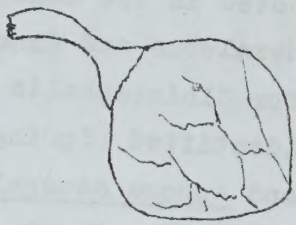
Annonaceae

This family, as it appears at the front of the 'Flora of West Tropical Africa', exhibits the basic characteristics of simple flowering plants. The 'Flora' lists twenty-four genera, but only five of these have been noted in The Gambia. These are: Uvaria, Cleistopholis, Xylopia, Hexalobus and Annona. These are mostly small, scandent shrubs, except for Cleistopholis which is an imposing tree that has been recently identified (Spring 1979) inside Abuko Nature Reserve. Uvaria chamae and Annona senegalensis are common under-shrubs in Kabafita Amenity Belt. The fruit of the former hangs in bunches like miniature bananas, and these can sometimes be found on sale in the streets and occasionally in the market. Annona squamosa, Sweet-sop, is a native of tropical America and is grown in compounds and gardens for its exotic dessert fruit while Annona muricata, Sour-sop, is also found in some compounds.

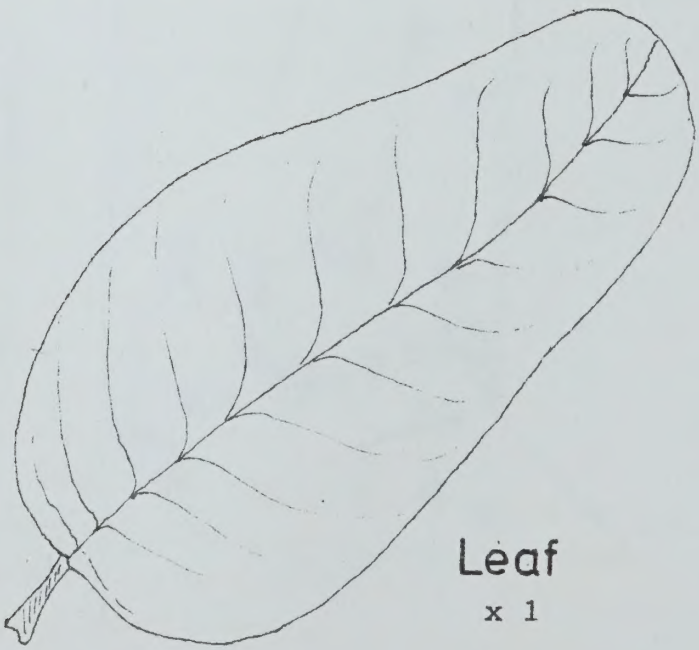
Annona senegalensis



Opened flower and bud x 1



Immature fruit x 1



Leaf
x 1

Annona senegalensis

SUNKUNGO (M): DORGOT (W): WULULOK (J): TUNKUME (Serahuli).

Flower: During April, May and early June in the Kombos.

Rather inconspicuous, solitary, pale yellow or yellow-green flower, hanging on a 2 cm stalk from the underside of the branch. Flower sparsely hairy, 1.5 cm long with three triangular sepals at the base and three thick, triangular, valvate petals. Three more inner petals surrounding the ovary.

Fruit: Fruit up to 3 - 4 cm long, smooth on the outside, but showing the outlines of the carpels by the green, mottled colouring.

Leaves: New leaves appear around March or April, alternate, entire, with stipules, 9 cm long by 3 cm broad, oval, but narrower near the apex and rounded at both ends. Twelve to fourteen pairs of alternate nerves. Leaves sparsely hairy when young, but becoming smooth with age. Old leaves often scabby with black spots on them.

Size and habitat: A small, scandent shrub, 1 - 1.5 m high, growing from several suckers. Bark smooth, silverish or light grey. Grows in open savanna.

Occurrence: This plant occurs widely through the bush in and around the Kombo region. Found at the Kabafita Amenity Belt.

Uses: Medicinal; For bad stomach pain and diarrhoea, take the inner bark, chew it, and swallow the juice. For children, extract the juice by boiling the bark and then give it to them as a drink. (This is a well-known remedy).

Also, tie strips of the rope-like inner bark around the waist to prevent diarrhoea.

Soak the leaves in water, and wash the face when having eye trouble (Lamin, Kombo North, 11/10/78).

In Senegal, a popular 'tisane' for chest complaints is made from the young leafy twigs and roots and the latter are used as a remedy for dysentery and diarrhoea. The bark is sold as a native medicine, to chew for stomach ache, and, along with other barks, to make an infusion for the treatment of skin erruptions.

Other; To bring luck in getting a job, the leaves from three stems should be picked on Thursday morning, and using the right hand, thrown over the right shoulder keeping the eyes shut. Then one has to pick up only the leaves that have landed shiny side up and wash them. These leaves will then bring good luck.

Moringaceae

A family of trees with gummy bark whose only representative mentioned in the 'Flora of West Tropical Africa' is Moringa. Natives of India and Arabia, recognised by the compound pinnate leaves, irregular flowers, long fruit and winged seeds.

Moringa oleifera Horse Raddish Tree

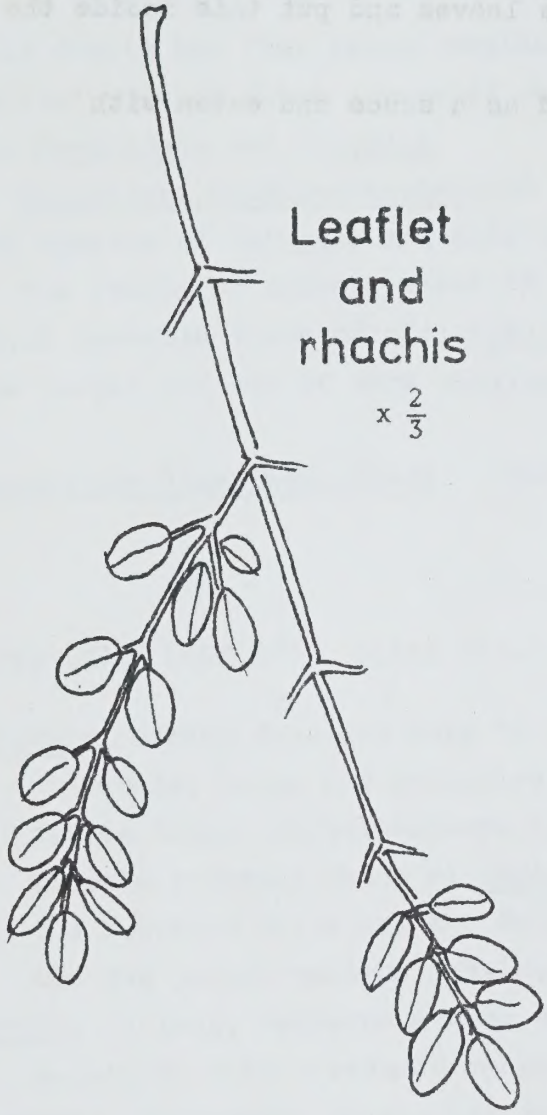
NEBERDAYO (M): BENAILE (Ben was the early name for present-day Dakar). (W).

Flower: All through the dry season before the new leaves appear. Flowers in branched panicles, the outside of the sepals with streaks of pink while the petals are white or cream and the anthers bright yellow. Flowers five-part on slightly hairy 1 cm stalks, subtended by minute bracts. The petals are arranged unequally with one upright behind the stamens and the others displayed out below the stamens in two pairs. Stamens of differing heights. Both stamens and petals slightly hairy. Flowers with a fragrant scent.

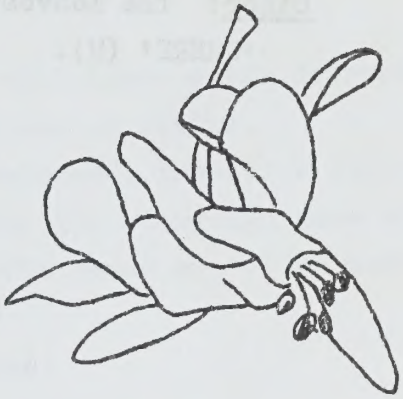
Fruit: A very long, thin, three-angled fruit with deep ribbing and tapering to a point. 40 - 50 cm long. Seeds globose with three membranous wings.

Leaves: Imparipinnate, compound leaves with up to six pairs of pinnae. Each pinna has opposite pairs of branched pinnules with different numbers and sizes of leaflets. Between each pair of pinnules is a rod-like gland on the upper surface which easily falls off. The leaflets are oblong or obovate, the largest being 2.5 cm long by 1.7 cm broad, but they tend to be very variable. Leaflets asymmetrical with an unequal base, rounded at the base and apex. All parts of the young stems and leaves are minutely hairy.

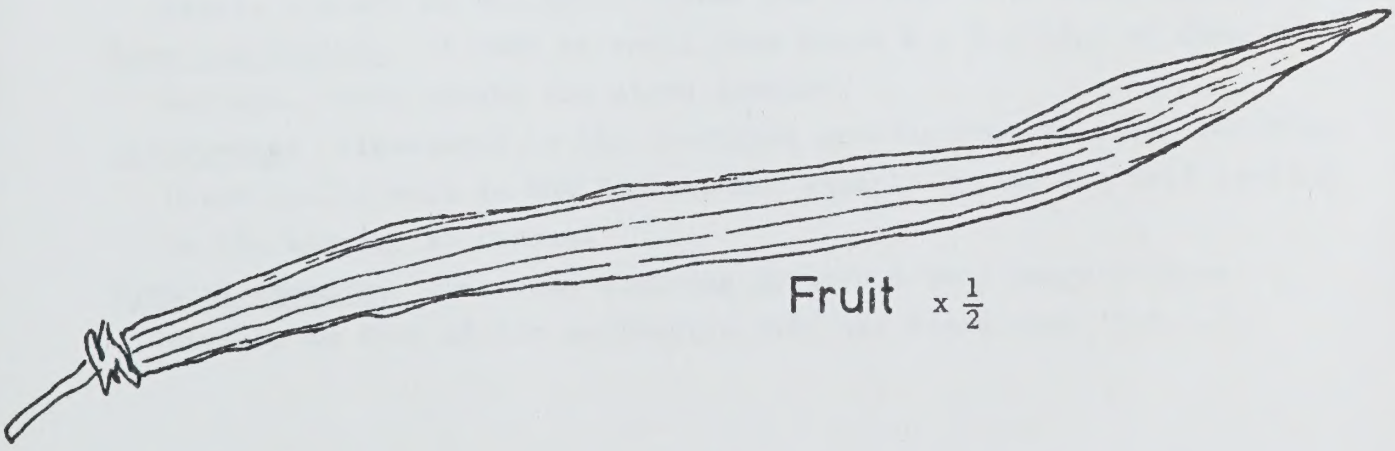
Moringa oleifera



Leaflet and rhachis x $\frac{2}{3}$



Florets x 3



Fruit x $\frac{1}{2}$

Size and habitat: A pendant shrub or small tree up to 5 m high with light feathery foliage and weak frail branches.

Occurrence: Found growing in compounds in villages. Specimens in Lamin, and beside the road at Tabo Koto, Kombo St. Mary.

Uses: Medicinal; Boil the leaves and drink the water for head colds. Squeeze the juice from the leaves and put this inside the ear for earache.

Other: The leaves are cooked as a sauce and eaten with 'CHERE' (W).

Polygalaceae

This family has four genera mentioned by the 'Flora of West Tropical Africa', two of which are noted to be present in The Gambia. These are Securidaca and Polygala.

Securidaca longipedunculata is a locally well-known snake deterrent, and species of Polygala are said to be poisonous to cattle.

The family is characterised by brightly coloured, irregular flowers which resemble those of the Papilionaceae, but the ovary has more than one carpel and one or more hanging ovules. The seeds are often hairy.

Securidaca longipedunculata 'The Violet Tree'

JUTO (M): FOUF (W): ALALI (F).

Flower: During June and July in the Kombos and Provinces. Petals, calyx and peduncles scarlet. Peduncle hairy, about 1.5 cm long. Inflorescences replace one of the anternate leaves. Florets resemble those of Papilionaceae. They have unequal petals, two recurved wings and the twisted staminal column is hidden inside the two joined upright petals; anthers eight, yellow.

Fruit: A long, membranous wing or samara, 4.8 cm long by 1.8 cm broad, sometimes with a reduced second wing.

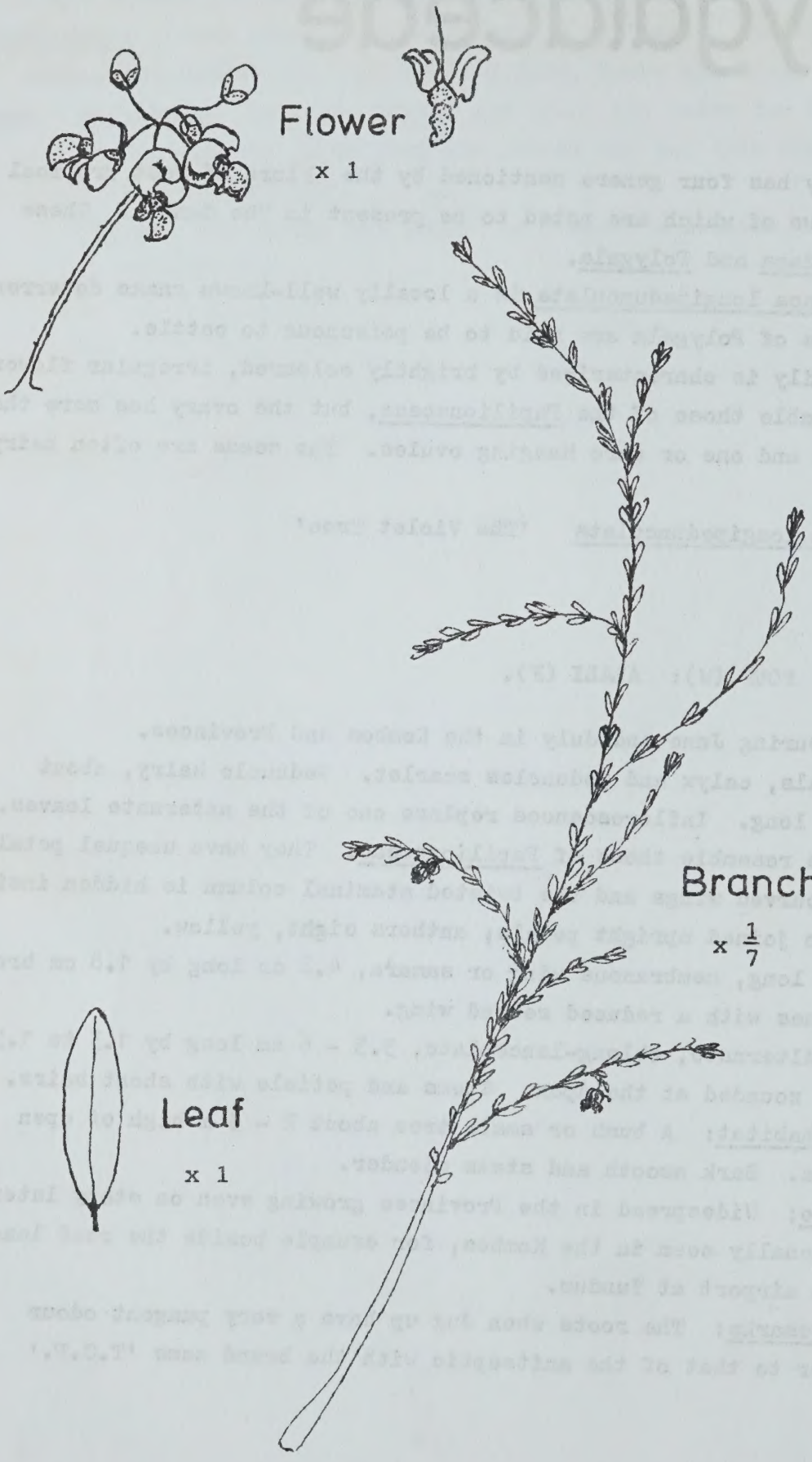
Leaves: Alternate, oblong-lanceolate, 5.5 - 6 cm long by 1.3 to 1.5 cm broad, rounded at the apex. Stems and petiole with short hairs.

Size and habitat: A bush or small tree about 2 - 3 m high of open savanna. Bark smooth and stems slender.

Occurrence: Widespread in the Provinces growing even on stony laterite. Occasionally seen in the Kombos, for example beside the road leading to the airport at Yundum.

Special remarks: The roots when dug up have a very pungent odour similar to that of the anitseptic with the brand name 'T.C.P.'

Securidaca longipedunculata



Uses: Medicinal; Boil the leaves and drink the water when bitten by a snake. It will help a person get rid of the venom by vomiting it out. Also wash the eyes with this water if caught by a spitting cobra.

Pound the leaves and apply the juice to a boil to take out the pus. But if this treatment seems to have no effect, take the roots, pound them into a smooth powder and apply this powder to the boil. (Sutukonding, U.R.D. 24/3/79).

Soak the roots and drink the water to get rid of body tiredness after doing heavy work (Lamin, Kombo North, 11/10/79) and to get rid of gonorrhoea (Mansajang Kunda, U.R.D. 18/3/79 and repeated at Jar Kunda, U.R.D. 24/3/79).

Soak or boil the roots and bark and drink the water to get rid of body poisons which cause 'FONYO' (M) (Fadyia Kunda, U.R.D. 24/3/79) and will take out hidden sicknesses (Sutukonding, U.R.D. 24/3/79).

Dry the bark, pound it and scatter the powder over the dying embers of a fire. Stoop over and inhale the smoke, to get rid of dizzyness (Koli Bantang, U.R.D. 24/3/79).

Sebire mentions the use of a decoction of the root in the treatment of sleeping sickness in Senegal (Appendix to the 'Flora' page 27).

Other: The split roots are scattered around the compound especially near the latrine to deter snakes (Saruja, M.I.D. June 1978 - See 'Flowering plants of The Gambia' by G M Hallam page 12).

Cochlospermaceae

Cochlospermum tinctorium

TIRIBO (M): JANDEREH, FAJU DARE (F).

Flower: During the first week of March and also at the end of March in U.R.D.

Flowers bright yellow, found a few centimetres above the ground while the plant is leafless. Large florets growing in pairs from woody stumps at the surface of the earth, with five flimsy, unequal petals up to 3 cm long. Numerous yellow stamens with cigar-shaped anthers. Minute pairs of bracts on 2 cm flower stalks.

Fruit: An obovoid, often hairy capsule containing long cottony hairs closely connected to the seed.

Leaves: Deeply palmately lobed. Lobes usually serrate while the lower surface of the leaf may be hairy.

Size and habitat: A low shrub up to 75 cm high, found in very dry ground and stimulated to flower in recently burned areas.

Occurrence: Seen as scattered flowering clumps in the bush near the border with Casamance in U.R.D. and also near the roadside in M.I.D. and U.R.D.

Special remarks: The plant has a large, woody, underground stem which, if cut open, yields a dark red juice.

Uses: Medicinal; The underground stem is dug up by cattle owners, pounded, mixed with salt and given as a drench to cattle during early rains. The cattle produce more milk and get fatter after this treatment.

In man, an extract from the pulped bulb is used to treat blindness. It is also said to cure 'yellow fever' - probably jaundice in this case - by using the powder on food or putting it in water and washing with it (Mansajang Kunda, U.R.D. 16/3/79 and Jar Kunda U.R.D. 24/3/79).

Caricaceae

This is a family mainly from tropical America with only one wild genus in Africa, though this does not occur in The Gambia. However, Carica papaya, which belongs to this family is widely cultivated in this country. It is typical of the family by having a terminal cluster of digitately-lobed leaves with milky juice, male and female flowers of different size and a pulpy, berry fruit.

* * * * * * *

Carica papaya The Paw-paw

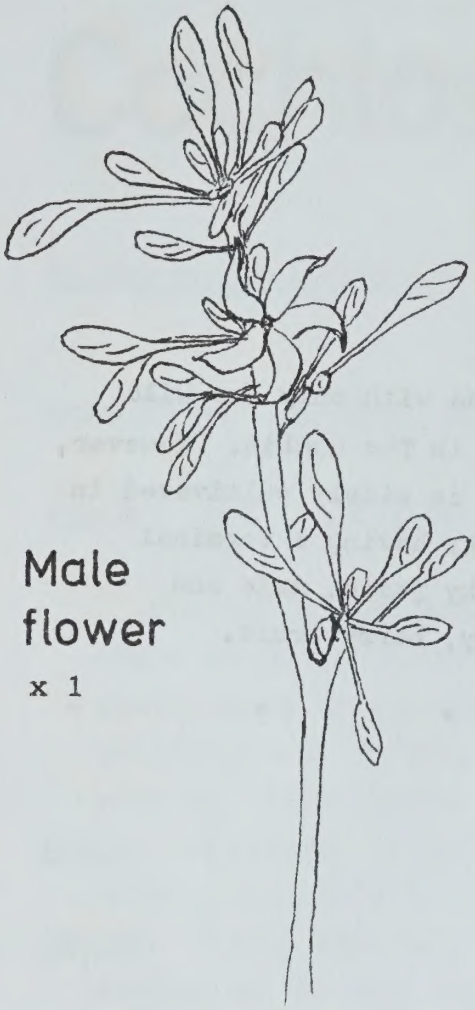
PAPAKAIYO (M): BUDI BAGA (F).

Flower: At any time of the year.

The plant produces male and female trees, each with its own type of flower. The male flowers are produced in bunches on long, branched stems. The florets are white, 2 cm in diameter, with petal lobes which are twisted anti-clockwise. Each cluster of flowers has a thin, leafy bract at the base of it. The female flowers are cream, 7 cm diameter, with five lobes which also twist anti-clockwise. The solitary female florets have five-part, prominent, green stigmas. Each floret is again subtended by a leafy bract.

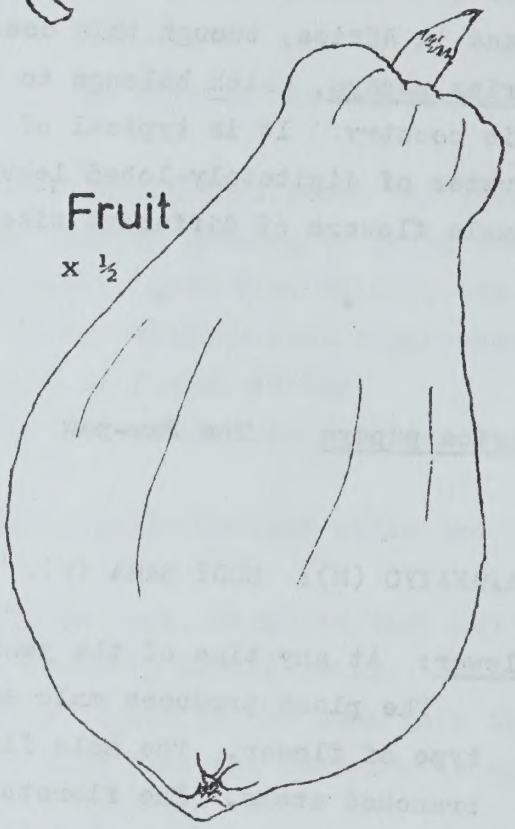
Fruit: Large, oval berries, up to 30 cm long which may hang in clusters near the top of the tree. These berries turn yellow or orange when ripe, have a sweet, watery flesh and contain hundreds of seeds attached to fibres at the centre of the hollow fruit.

Carica papaya

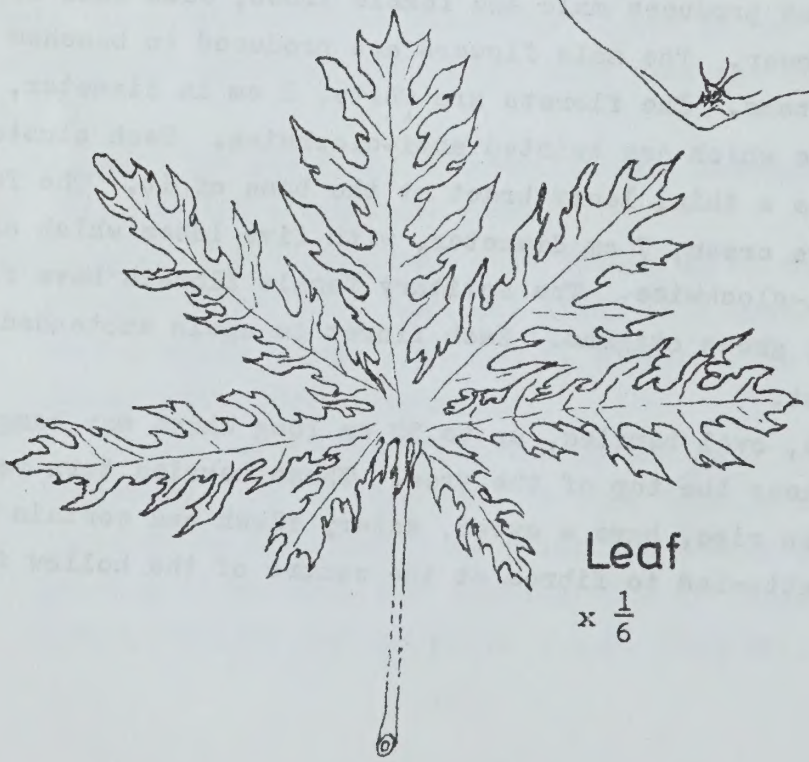


Male
flower
x 1

Female
flower
x 1



Fruit
x ½



Leaf
x $\frac{1}{6}$

Leaves: Digitate, with seven or nine main 'fingers'. Each 'finger' has a prominent mid-rib on the underside of the leaf. The 'fingers' subdivide and branch into many lobes. The leaves are about 60 - 70 cm diameter and are attached to the tree by a hollow, 60 cm long, smooth petiole. As the tree grows, the leaves drop off and scars are left behind on the smooth, narrow trunk.

Size and habitat: The trees can grow up to 7 - 10 m high even on poor soil.

Occurrence: Found growing in compounds and villages all over The Gambia.

Uses: Medicinal; Roots boiled, and the water drunk to cure the inability to urinate (Lamin, Kombo North, 11/10/78 and repeated in other places).

Roots split up and soaked in a jar. The water is taken in for gonorrhoea (Sutukonding, U.R.D. 24/3/79).

Use the juice from the green, unripe fruits on open wounds to help stop bleeding (Report from the staff of Marakissa clinic, Kombo Central).

Boil the unripe fruit and add salt. Drink the water from this to cure gonorrhoea.

An unripe paw-paw cooked with a fowl and palm oil is reported to be good for black-water fever.

Other; The dried leaves can be used as a tobacco substitute and can also be squeezed in water to produce a soap substitute.

The leaves can be cooked as a green vegetable, but the old ones contain the alkaloid carpaine and the enzyme papain ('Edible leaves of the Tropics', by Martin and Ruberte).

Ochnaceae

A family with five genera mentioned in the 'Flora of West Tropical Africa' of which three are noted to occur in The Gambia. These are: Ochna, Lophira and Sauvagesia. The family is characterised by having leaves with stipules and usually numerous prominent lateral nerves, very deeply lobed ovaries with simple styles and a persistent calyx in the fruit.

Lophira lanceolata The Red Oak

MACHICHARO (M): MANAYIRI (M,W,F).

Flower: During late dry season, January to March.
White flowers in lax, branched panicles. Florets five-part. Petals white, each with two lobes. Numerous yellow stamens.

Fruit: Unequal, winged fruit with a thin, conical nut in the middle.

Leaves: In whorls at the ends of branches. Strap-shaped or oblong, 21 cm long by 5 cm broad with a 3 - 3.5 cm tough, pale yellow petiole which extends straight into the lamina without any differentiation as a prominent mid-rib. Very fine parallel venation, and a marginal vein. Leaves thick, undulate, upper and lower surfaces smooth. Apex rounded and minutely acuminate in the notch.

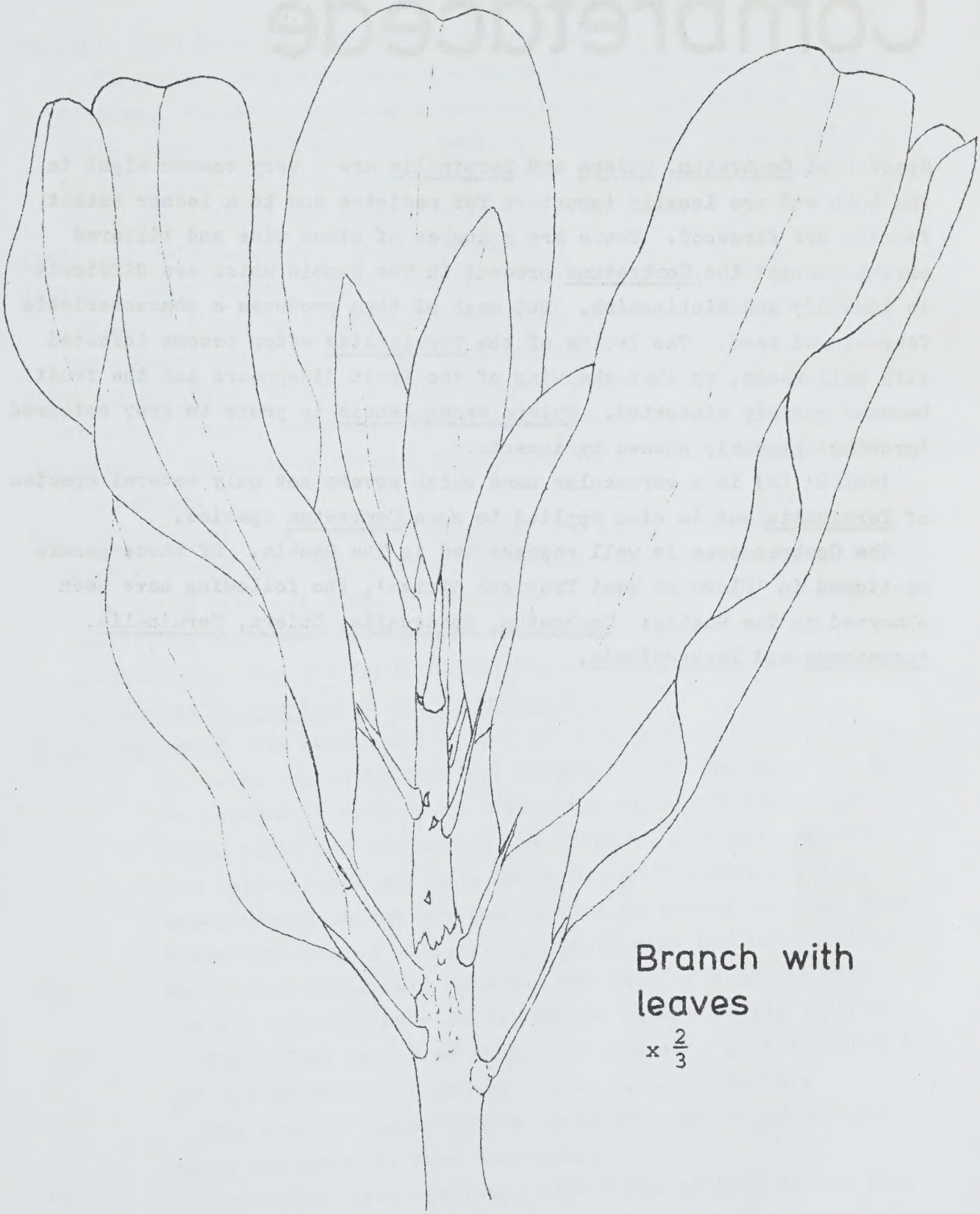
Size and habitat: A savanna tree up to 14 m high with a gnarled trunk.

Occurrence: Specimen growing at the Brikama turn on the main road. Also seen regenerating in recently burned savanna areas.

Uses: Medicinal; Drink and wash with the boiled water of the leaves to lessen the suffering of pregnant women during their labour pains (an application repeated several times).

Dry and pound the inner bark. Put the powder on a small fire which has been lit in the house or smoke the powder in a pipe to cure headache (Darsilame, Kombo Central, 28/11/78).

Lophira lanceolata



Branch with leaves
x $\frac{2}{3}$

Combretaceae

Species of Combretum, Guiera and Terminalia are a very common sight in the bush and are locally important for medicine and to a lesser extent fencing anf firewood. There are a number of stout vine and tillered shrubs amongst the Combretums present in The Gambia which are difficult to identify and distinguish. But each of them produces a characteristic four-winged seed. The fruits of the Terminalias often become infested with gall-wasps, so that the wing of the fruit disappears and the fruit becomes grossly distorted. Guiera senegalensis is prone to grey coloured 'growths' probably caused by insects.

'WOLLO' (M) is a vernacular name which covers not only several species of Terminalia but is also applied to some Combretum species.

The Combretaceae is well represented in The Gambia. Of those genera mentioned in 'Flora of West Tropical Africa', the following have been observed in The Gambia: Combretum, Quisqualis, Guiera, Terminalia, Anogeissus and Laguncularia.

Combretum glutinosum

JAMBA KATTANGO (M): RAT (W): DOKI (F): TAHI (Serahuli)

Flower: Seen in bloom in February and March.

Flower an axillary branch 8 - 10 cm long with a whorl of minute florets. Florets less than a centimetre long, having four small, white, heart-shaped petals in between calyx lobes. Stamens eight, in two groups of four, set on the rim of the calyx cup. Dense white hairs round centre of calyx at base of lobes.

Fruit: A golden-yellow, four-winged seed.

Leaves: Young leaves simple, smooth, 4 - 5 cm long by 2.5 cm broad. Petiole 1.5 cm, no stipules, eight pairs of veins. Leaves broadly lanceolate, sticky above and hairy beneath.

Size and habitat: Usually a small savanna shrub growing in dry, or recently burned, savanna; but also found as a tree up to 10 m high.

Occurrence: Widespread through M.I.D. and U.R.D. but not common in the Kombos.

Special remarks: The locals distinguish two kinds of JAMBA KATTANGO, that of -MUSO and -KEO. -MUSO, literally 'female', is characterised by a white bark and soft, velvet leaves. That of -KEO, literally 'male', is characterised by red bark and hard leaves. It is possible that the two JAMBA KATTANGO's are two similar species of Combretum: C. glutinosum and C. hypopilinum.

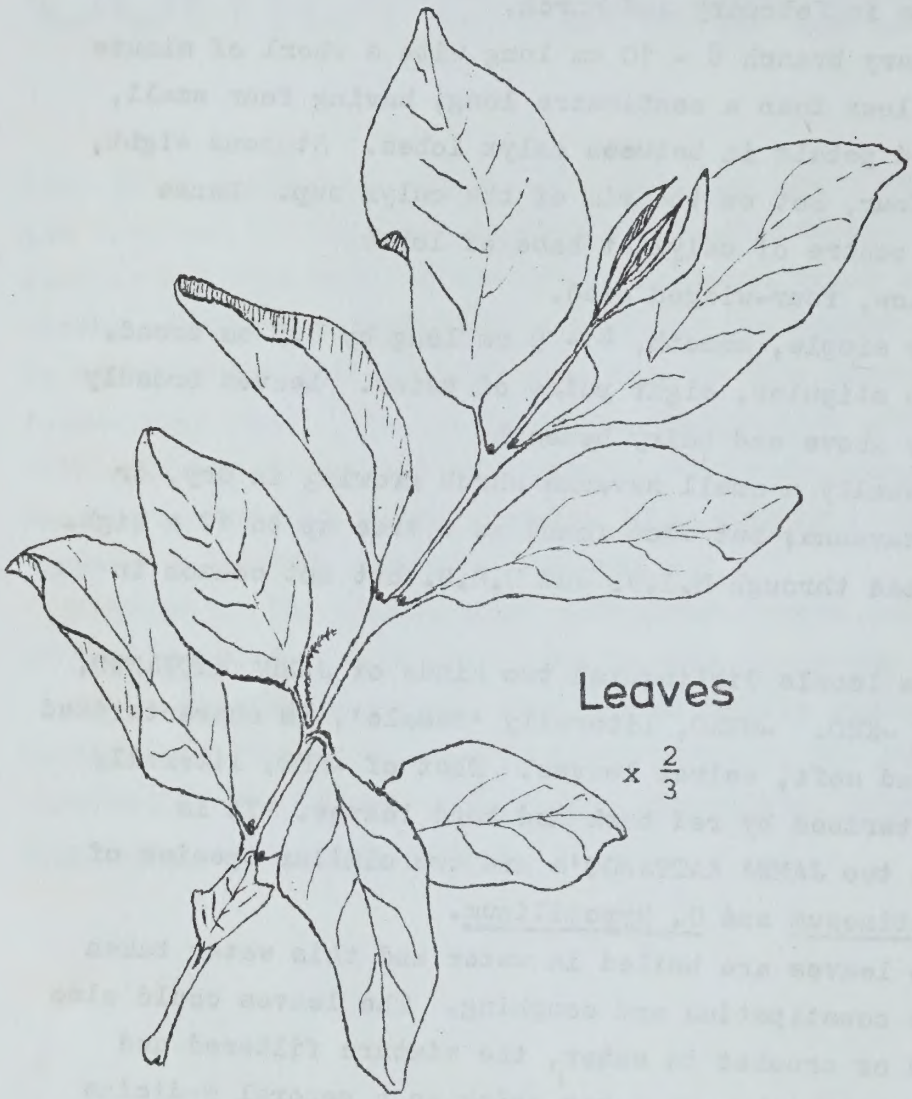
Uses: Medical; The leaves are boiled in water and this water taken in to cure constipation and coughing. The leaves could also be pounded or crushed in water, the mixture filtered and sugar added and taken as a hot drink as a general medicine for colds, fever and as a laxative and for weak muscles. Dry powdered leaves are put on food to prevent stomach ache. These are uses of -KEO, and in particular the boiled water when taken in is said to clear the eyes of a person with 'yellow fever'(Kekuta Keita, Manneh Kunda, U.R.D. 17/3/79).

The boiled leaves of -MUSO are used as a cattle drench to get rid of worms (Mansajang Kunda, U.R.D. 16/3/79).

The pounded leaves can be mixed with water and swilled round the mouth to cure toothache.

Sometimes trees are found with tufts of thin shoots with minute leaves (probably caused by disease): these are known as JAMBA KATTANG-SOTO (M), -BAYEH (F). These leaves, boiled in water help to get rid of headache or chest pain quickly. Mansajang Kunda, U.R.D. 16/3/79).

Combretum micranthum

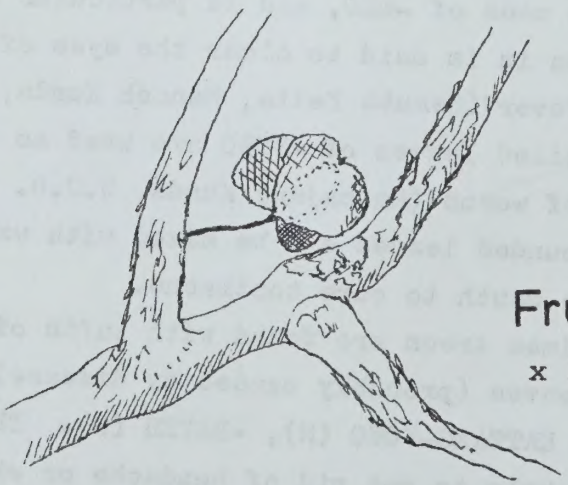


Leaves

x $\frac{2}{3}$

Flower

x 1½



Fruit

x 1

Combretum micranthum

BARO, KINKELIBA (M): RAT, SEHEOU, SEGWEOU (W): TALLI (F).

Flower: Flowers in May and June as the new leaves appear.
Flowers very small spikes 2 cm long. Flower stalk light brown, grouped together in bunches up the stems. Florets minute, 2 mm long including stalk. Cream stamens and tiny white petals less than 1 mm long. Detail almost too small for the unaided human eye.

Fruit: A four-winged, brown fruit 12 - 14 mm long with a short stalk. Old fruits and leaves persistent.

Leaves: Young leaves, in pairs up the stem, are soft and floppy compared with the stiffer, tougher leaves of last season which are often affected by a brown blight. New leaves softly tomentose on both sides, 7 cm long by 4.5 cm broad. Leaf apex rounded and the margin wavy, oval in shape. Leaves with a 0.5 cm petiole. Young stems of the plant covered with a brown indumentum. Leaves generally have five pairs of veins. The bark is red-brown and stringy or flaky.

Size and habitat: A savanna bush up to 3 m high sending out many suckers or sometimes found as a liane.

Occurrence: Found in the bush behind Mandinari village and large amounts in Salagi Forest Park, but widespread through the Gambia.

Special Remarks: When the BARO plant has produced fully developed leaves then local people say that the rains have arrived.

Uses: Medicinal; A drink is made from the leaves for coughs (Lamin, Kombo North 11/10/78).

Take the fresh leaves and/or the inner bark of the root and apply to old wounds which previously have not healed.

Forty years ago there was a plague in The Gambia by the local name of ALIBALA (M) which killed many people. But those who were given tea to drink made from BARO leaves, three times a day, were saved from this plague (A M Drammeh, Lamin, Kombo North, 14/6/79)

Other: The white wood is used to make groundnut winnowing sticks called TE BUSARANGO (M) and women's digging sticks used in rice fields known as CHARKARATO (M).

Combretum paniculatum

KUNINGDINGDOLO JAMBA BA (M).

Flower: In flower in early February continuing until March.

Large panicles up to 20 cm long of bright red, or crimson, clusters of flowers occurring in the axils of very young leaves. Florets about 2 cm long from the anthers to the base of the receptacle which is somewhat swollen and 3 mm long. Calyx fused, glabrous and brick-red in colour. Petals four, incurved and twisted clockwise. Two sets of for stamens attached at different heights.. Inside of the calyx covered with white hairs.

Fruit: A typical four-winged seed, pale at first but turning brown, fairly large.

Leaves: New leaves entire, opposite, glabrous, up to 22 cm long by 10.5 cm broad. Irregular wavy margin, asymmetrical about the rib, elliptical, with acute apex. Seven prominent veins on either side of midrib on underside of leaf.

Size and habitat: A scandant, woody shrub with stems up to 2 m high in savanna.

Occurrence: Found in Kabafita Amenity Belt and by the side of the road in the Provinces. Quite widespread, most noticeable when in flower.

Special remarks: The name KUNINGDINGDOLO is applied to several climbing species of Combretum and even to Tapinanthus bangwensis - the African Mistletoe, but local people do distinguish different ones by using factors such as size of leaf.

Uses: Medicinal; Boil the leaves and use the water to wash small boys early in the morning if they are sick.

Leaves boiled and water taken in for stomach ache and for women who have not seen a period recently (Fadyia Kunda U.R.D. 24/3/79).

Boil the leaves and drink to lessen labour pain (Sutukonding U.R.D. 24/3/79).

Other: C. paniculatum is amongst other climbers such as C. racemosum and C. tomentosum which could be used to make bush rope. However, these less well known species do not seem to be valued for their medicinal uses.

Guiera senegalensis

KANKANANGO, MAMAKUNKOIYO (M): NGERR (W): GELOKI, GEHLOD (F).

Flower: During mid- to late January. Even when picked and dried, the buds continue to enlarge and open.

Flowers in dense, globose heads about 1 cm in diameter. Each tiny floret consists of a mass of twisted, curled stamens with scattered black glands or dots. Petals yellow, but very small. Each floret has a number of silky white hairs. Flowers in bud quadrangular due to the flattened shape of the bracts.

Fruit: A thin, narrow, four-ribbed seed 3 - 4 cm long, covered with dense white silky hairs.

Leaves: Opposite, oblong-elliptic, largest leaves being 6 cm long by 3.5 cm broad, smooth on both surfaces with black, scattered, dot-like glands. Distinct grey-green foliage.

Size and habitat: A bush or shrub about 1.5 m high but sometimes larger on open savanna and recently cultivated land.

Occurrence: Seen on any open land, very common and very widespread.

Special remarks: Regenerates very quickly as farmers have to clear this plant every year before sowing their land.

The plants are often covered with galls.

Uses: Medicinal; Boil the leaves, add sugar and drink the water to relieve coughs, chest pains and stomach ache (a very well known remedy repeated everywhere).

Also use the boiled water from leaves to relieve people suffering from fever (Brikama, Kombo Central, 5/10/78).

Pound the dried leaves into a powder, add water and drink to get rid of V.D. (Sutukonding, U.R.D. 24/3/79).

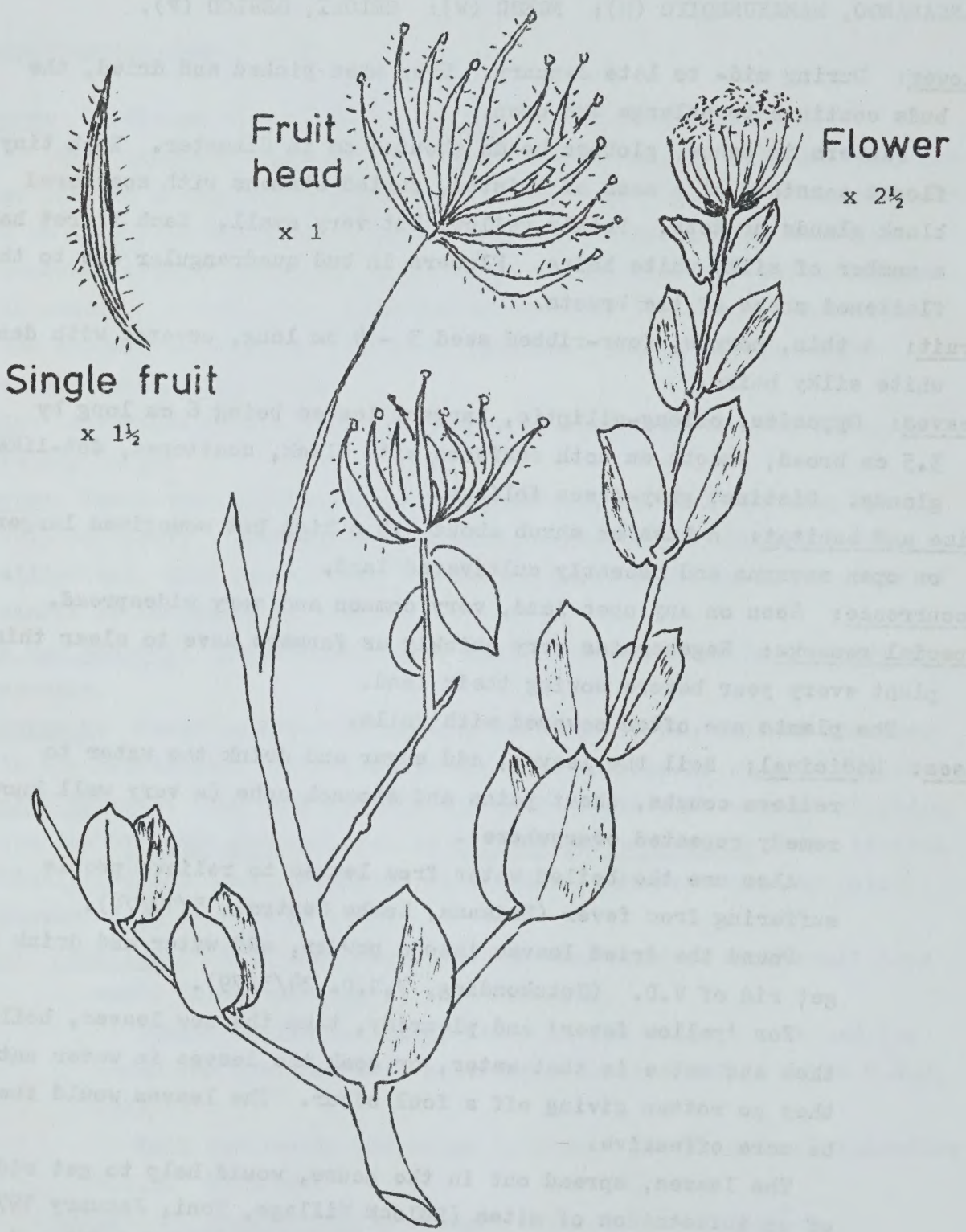
For 'yellow fever' and pleurisy, take the new leaves, boil them and bathe in that water, or soak the leaves in water until they go rotten giving off a foul odour. The leaves would then be more effective.

The leaves, spread out in the house, would help to get rid of an infestation of mites (Bulock Village, Foni, January 1979).

The leaves are combined with those of KATIJANKUMO (M) and soaked in a jar. Bathe with this water three times every day to relieve FONYO (M).

Other; The branches are cut and used for fencing and in Moslem burials.

Guiera senegalensis



Terminalia macroptera

WOLLO-JONGO (M): WOLO (W): BODEH, KIRLEME (F): BUANGA (J).

Flower: In early dry season.

Inconspicuous green spikes (not seen by author).

Fruit: Oval seed enclosed by a broad wing with a rib down the centre. Fruit oblong with a slight curve, 10 cm long by 3 cm wide, with a 1 cm stalk. Seed dark brown and the wings orangy-brown with lateral venation. Often the fruits are grossly deformed into swollen galls.

Leaves: Sessile, elongate or ob-ovate, 25 cm long by 10 cm broad. Mid-rib and nerves pronounced on both sides of the leaf. Upper side of the leaf not shiny. Leaves often affected by black spots or brown and red incursions.

Size and habitat: A savanna tree up to 10 m high with gnarled, twisted branches and black fissured bark, often found in groups.

Occurrence: Found everywhere in forest and farmland in the Kombos, and is widespread through the rest of the country.

Special remarks: There are several species of Terminalia growing in The Gambia, Another locally well-known one is WOLLO-KOIYO (M) - T. avicennoides distinguished by local people, by having white bark and branches and straight leaves.

Uses: Medicinal;

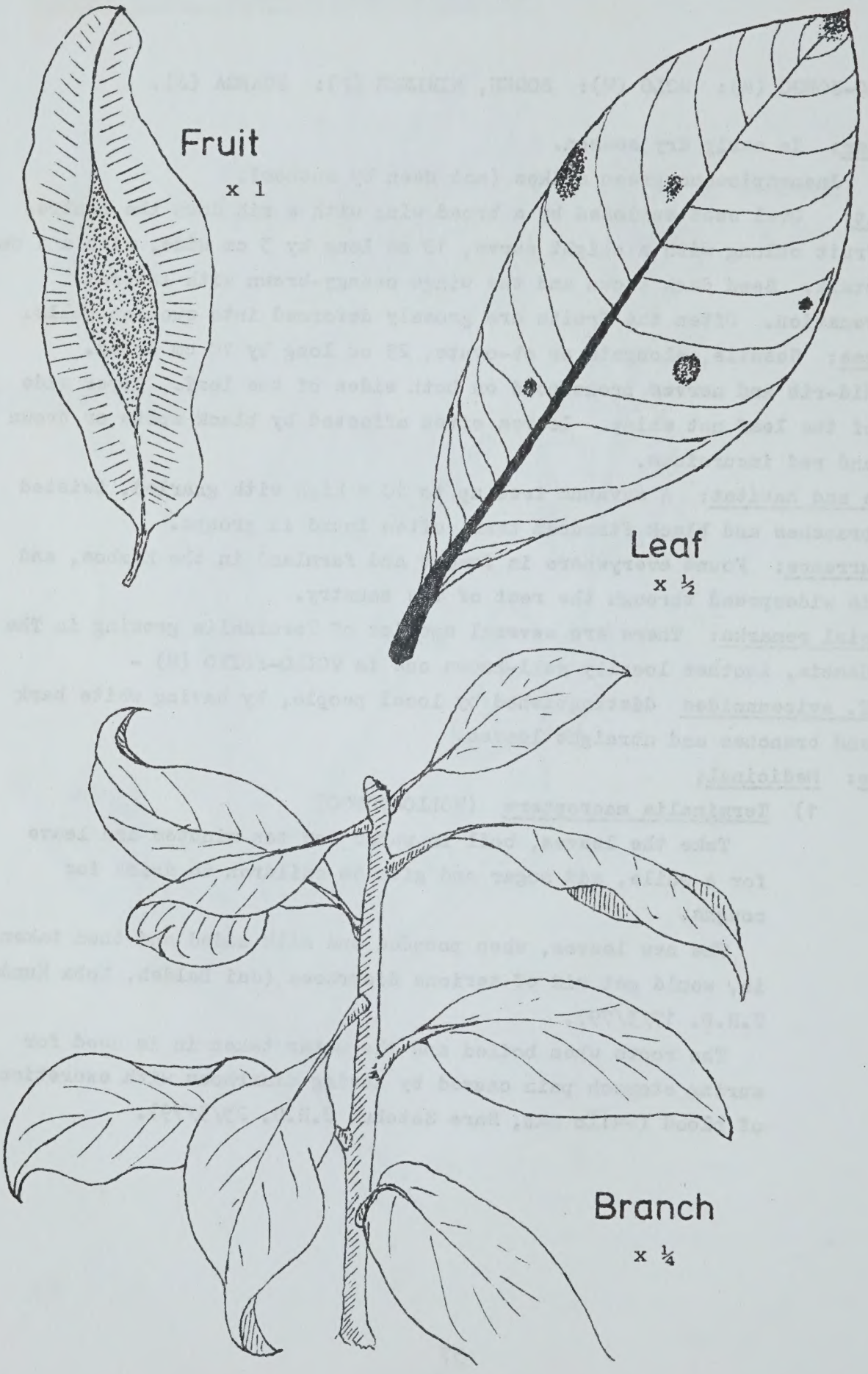
1) Terminalia macroptera (WOLLO-JONGO)

Take the leaves, boil in water for ten minutes and leave for a while, add sugar and give to children to drink for coughs.

The new leaves, when pounded and milk added and then taken in, would get rid of serious diarrhoea (Jai Baldeh, Koba Kunda U.R.D. 17/3/79).

The roots when boiled and the water taken in is used for curing stomach pain caused by having diarrhoea with excretion of blood (Pullo Bah, Sare Satchu, U.R.D. 23/3/79).

Terminalia macroptera



Uses: Medicinal (continued);

2) Terminalia avicennoides (WOLLO-KOIYO)

Take the fresh leaves, boil, and give to a woman who has not seen her period recently (Mandinari, Kombo Central 17/5/79).

Take the leaves, chew them to extract the juice, and apply the juice to the white mouth of a new-born baby (Mandinari gardens, Kombo North, 14/5/79).

Take the inner bark of the root, soak it in water, and drink this water to get rid of 'yellow fever' (Jar Kunda, U.R.D. 24/3/79).

Take the pounded inner bark, add a bit of water and mix thoroughly to get a foam. Use the foam on a burned area of skin. Do this again the following day if there is a seepage from the burn (Mamputa, U.R.D. 19/3/79).

Hypericaceae

This is a small family with only five genera mentioned in 'Flora of West Tropical Africa', two of which have been noted in The Gambia.

There are several species of Psorospermum in The Gambia which are generally classed under the vernacular name KATIJANKUMO (M) and are considered to have several medicinal uses. Harungana madascariensis has also been found in The Gambia but does not seem to be very common.

The Hypericaceae are recognised by: the opposite, often gland-dotted leaves, the five-part, white or yellow flowers which have stamens united into bundles.

Psorospermum corymbiferum

KATIJANKUMO (M).

Flower: Coming into flower in the Fonis in mid-April and in the Kombos in May and June.

Clustered, terminal inflorescences of small, cream-coloured flowers. The cymes are usually over 5 cm diameter, flat-topped, with flower-stalks exceeding 1 cm long. Outside of the sepals with densely woolly short hairs.

Fruit: Bunches of ellipsoid, brown or purple drupes, 1.5 cm long.

Leaves: In opposite pairs, oval, 6.5 cm long by 3.5 cm wide, with both surfaces smooth, while the upper one is shiny. Round the margin of the leaf, and covering the under surface, are numerous black-dotted glands. The very young leaf shoots are also covered with hairs.

Size and habitat: A small tree or bush up to 5 m high growing in lightly wooded savanna.

Occurrence: Found in Kabafita Amenity Belt, in the bush behind Mandinari village, Kombo North and beside stretches of the main road in the Fonis.

Uses: Medicinal; Take the roots and boil them in the oil from crushed palm-kernal nuts. Remove the oil and mix it with milk and apply to boils on the skin, and a disease called 'KATO' which is translated as 'Smallpox'. (This treatment for Smallpox was repeated at least three times in different places).

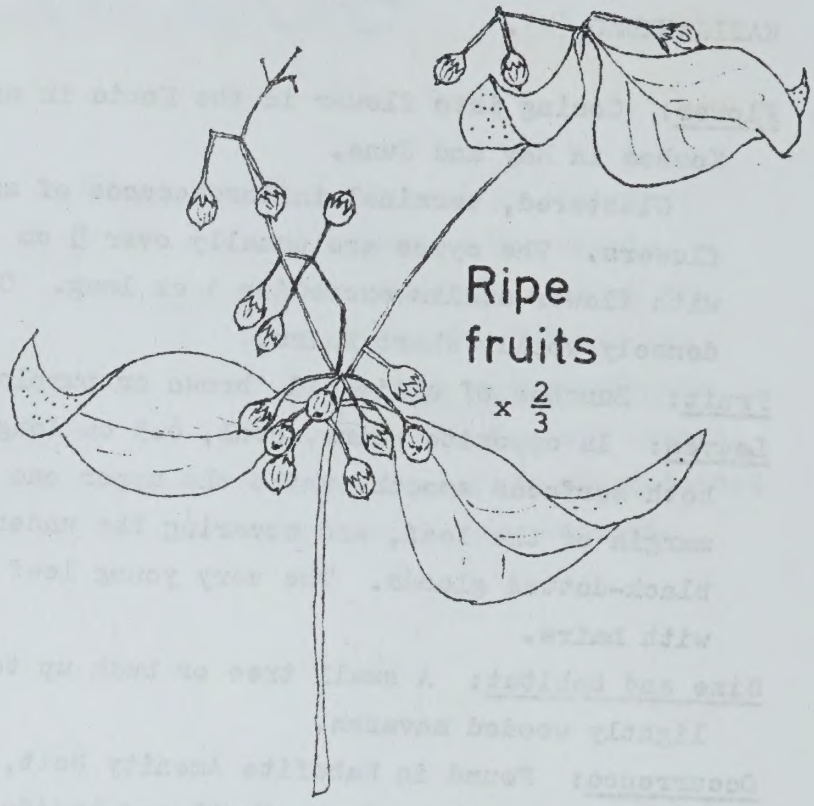
Boil the leaves and roots and take the water in to cure body sickness and loss of blood (Lamin, Kombo North, 11/10/79, and Bulock village, Fonis, January 1979).

Boil the leaves and take in the water for coughs and stomach ache (Fadyia Kunda, U.R.D. 24/3/79).

Psorospermum corymbiferum

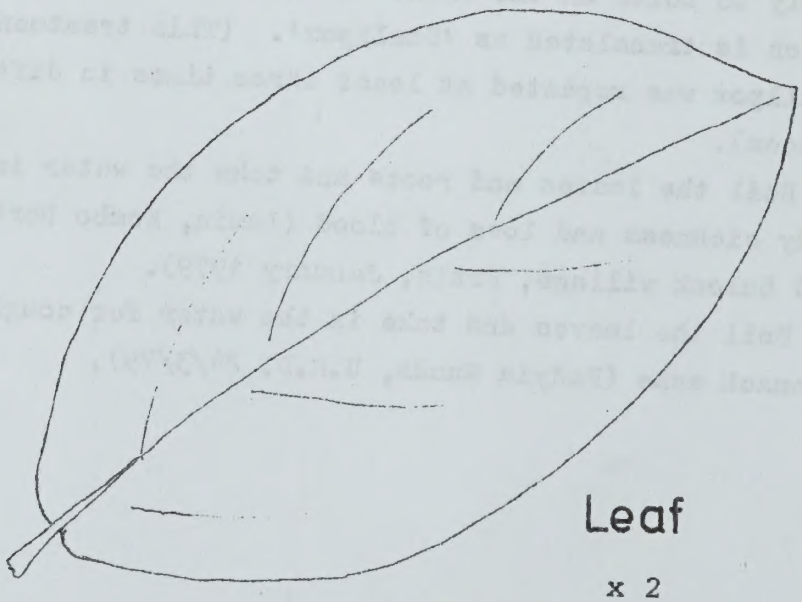
Floret

x 3



Ripe fruits

x $\frac{2}{3}$



Leaf

x 2

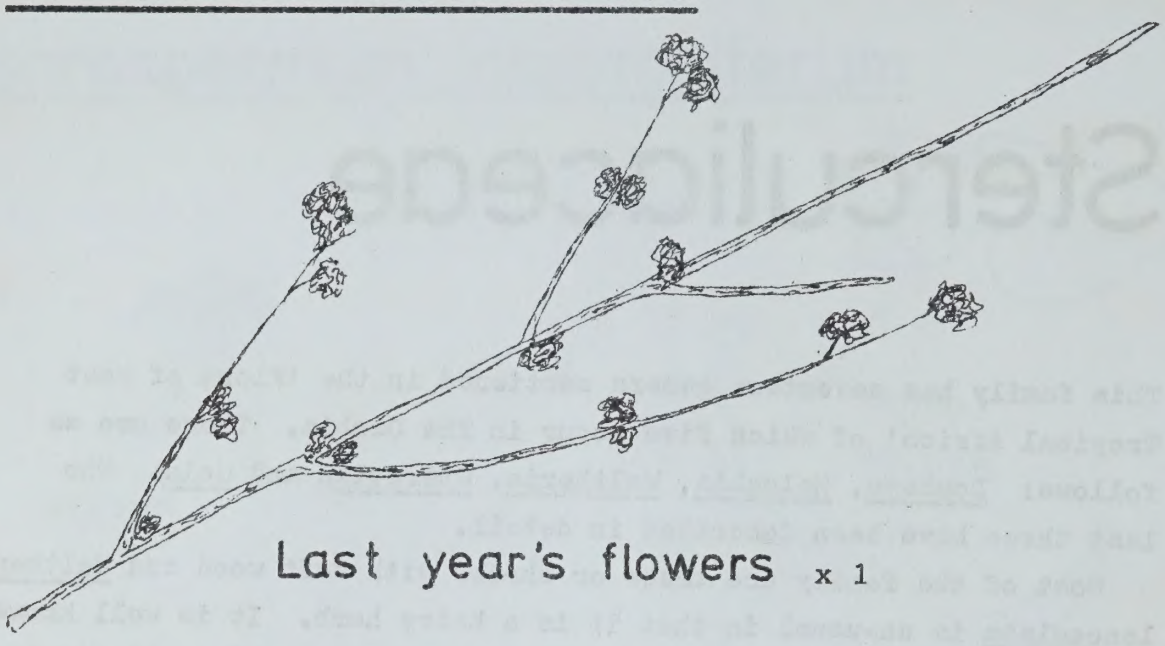
Sterculiaceae

This family has seventeen genera mentioned in the 'Flora of West Tropical Africa' of which five occur in The Gambia. These are as follows: Dombeya, Melochia, Waltheria, Sterculia and Cola. The last three have been described in detail.

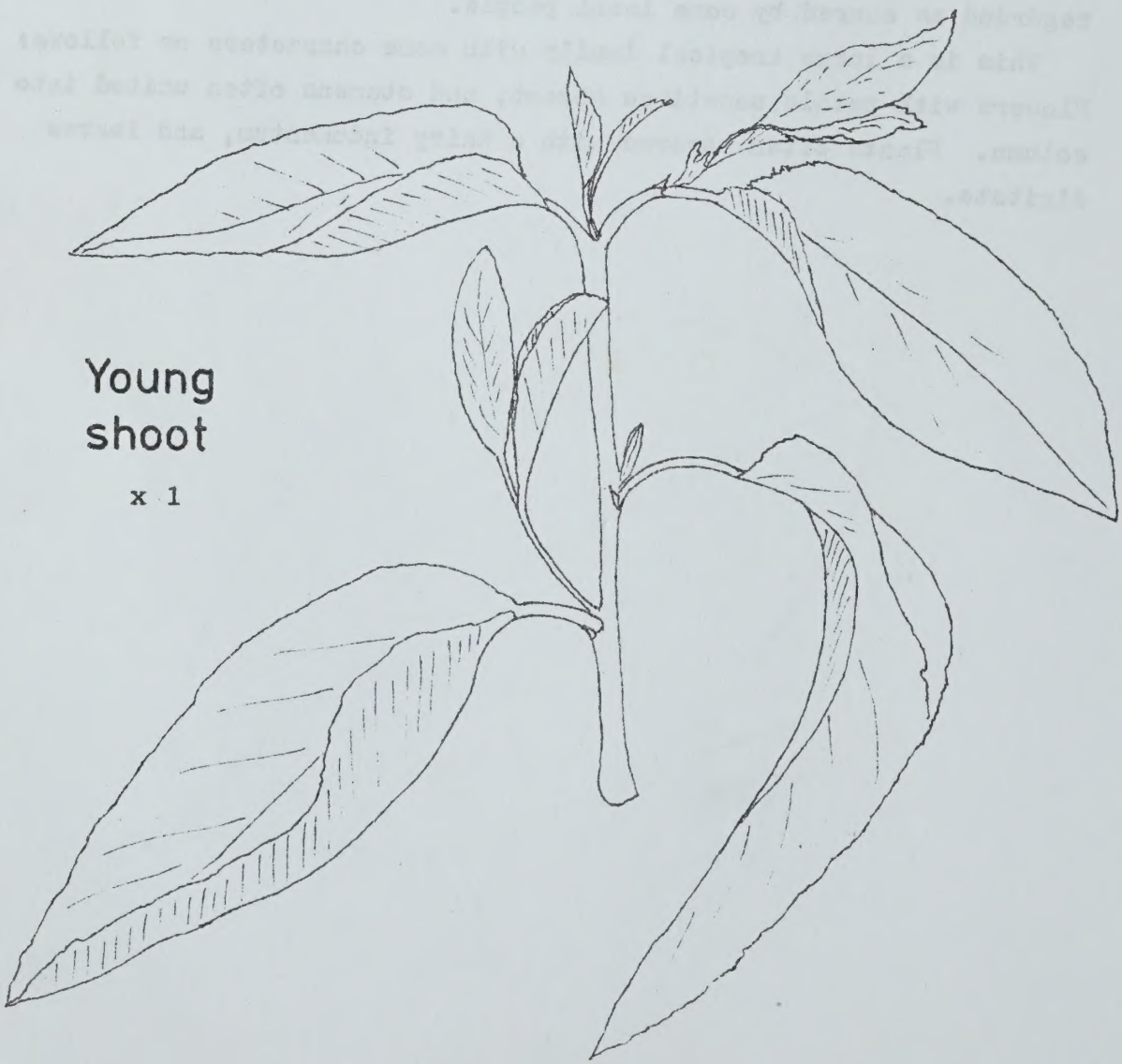
Most of the family are trees or shrubs with soft wood and Waltheria lanceolata is un-usual in that it is a hairy herb. It is well known amongst people for its medicinal properties. Sterculia setigera is a large savanna tree with medicinal properties which are known in localized places. Cola cordifolia is another large tree which is regarded as sacred by some local people.

This is a large tropical family with some characters as follows: Flowers with petals sometimes absent, and stamens often united into a column. Plants often covered with a hairy indumentum, and leaves digitate.

Waltheria lanceolata



Last year's flowers x 1



Young shoot

x 1

Waltheria lanceolata

BUWA-LA-JUFITARANGO (lit: Witch's toilet paper), NYANA-NYING-JOSILANGO, NGAYA-NYING-SUSARANGO (lit: Ancient King's Chewing Stick) (M); BOURAI (W): OLULUBIN (J).

Flower: During the late rains and early dry season from October until December.

Minute flowers in tight clusters on a common flower-stalk 5 - 6 mm long. Inflorescence about 2 cm wide. Florets surrounded by numerous, hairy, leaf-like bracts. Calyx teeth slightly reddish and also hairy. Florets regular, bright yellow, with five petals.

Fruit: A brown-coated, one-seeded capsule.

Leaves: Alternately arranged, upper leaves of plant thin and lanceolate while the lower ones are wider and more variable, 5 - 10 cm long by 4 - 6.5 cm broad. Pronounced petiole, 1.5 - 2.5 cm long, at least seven prominent veins, both surfaces softly hairy.

Size and habitat: An annual herb, 1 - 1.5 m high, with straggling, fibrous, axillary branches when mature, bending over under their own weight. A weed of fields, gardens, and short grass savanna.

Occurrence: Widespread over the country, and can be seen in the fields around Yundum.

Special remarks: Has a very long tap-root and is difficult to pull up.

Uses: Medicinal; Take the leaves along with those of JAMBA LULU (M)- Paullinia pinnata - tie them in a bundle and squeeze them in water. Wash the body with the water in cases of fever.

Boil the leaves and roots and drink the water to get rid of coughs, diarrhoea, and stomach pain. Also gives power to women ! (Lamin, Kombo North, 10/11/78, Mandinari village, Kombo North, 17/5/79).

If the belly of a woman 2 - 3 months pregnant is hurting, cook the roots and add honey and give to her to drink.

Roots collected, pounded and water added. Used for curing toothache and ear diseases (Saruja M.I.D June 1978). See 'Flowering plants of The Gambia' by G.M.Hallam page 11.

Sterculia setigera

KUNKUSITO (lit: 'KUNKO' = hill or farm, 'SITO' = baobab) (M): MBEP (W): BOBORI (F).

Flower: Presumably in the late dry season, though not seen by the author. Description taken from the 'Flora of West Tropical Africa'.

Flowers in short, crowded cymes on previous year's shoots, dull red or yellowish green with red streaks, appearing before the new foliage. Calyx bell-shaped, lobed to about the middle, 1 cm long, hairy outside.

Fruit: Four to five boat-shaped fruits, 6 cm or more long, grey to brownish outside, beaked, velvety inside with pungent bristles along placenta line. Seed ellipsoid, grey coloured, 10 - 14 mm long, with a yellow, fleshy stalk at the base.

Leaves: Digitately-nerved and lobed, cordate at base, lobes triangular-acuminate, up to 20 cm long and broad, softly hairy beneath becoming less so with age.

Size and habitat: A deciduous savanna tree up to 35 m high with a rough, patchy, light brown bark, yielding a white gum. The tree has a rounded outline with congested, up-turned branches over the outside. Branches softly hairy.

Occurrence: Common in the provinces, seen near Sapu M.I.D. but not common in the Kombos.

Uses: Medicinal; Soak the bark in water, and drink to cure 'FONYO' (M) (Fadyia Kunda, U.R.D. 24/3/79).

Boil the bark and drink the water to cure diarrhoea (Jai Baldeh, Koba Kunda U.R.D. 17/3/79).

Cola cordifolia Mandingo Kola

TABO (M): TABBA, NTABA (W): TABAJEH, KUMBAMBEH (F).

Flower: During late dry season, February to April.

Rather inconspicuous, greenish bunches of flowers without petals. Outside of calyx densely hairy.

Fruit: Clusters of three to five stout follicles hanging from fibrous, woody stems at the ends of branches. The follicles are about 10 cm long by 4 cm broad and have a warty surface. They have recurved beaks at the ends, and split open on the tree to reveal seven or so large, pink or red seeds.

Leaves: Large palmate leaves with an irregular, undulate margin, 19 cm long by 21 cm broad with a cordate base. Leaves with seven prominent, branching mid-ribs radiating out from the leaf base. Thick leaf petiole, 15 cm long. Leaves arranged alternately whorled up the branches. Each leaf has a pair of thin, pointed, hairy stipules, 1.5 cm long, which soon fall off leaving semi-circular scars on the branches. The mature leaves have tough, fibrous stalks and a crinkled surface texture often covered with leaf galls.

Size and habitat: An evergreen tree with very dense foliage, oblong in shape, up to 16 m high, found in savanna country.

Occurrence: A fairly common tree, often used as the site of bantabas in villages because it is a good shade tree. Specimen found beside the road on the right when travelling towards Brikama just before reaching Nyambai Forest boundary.

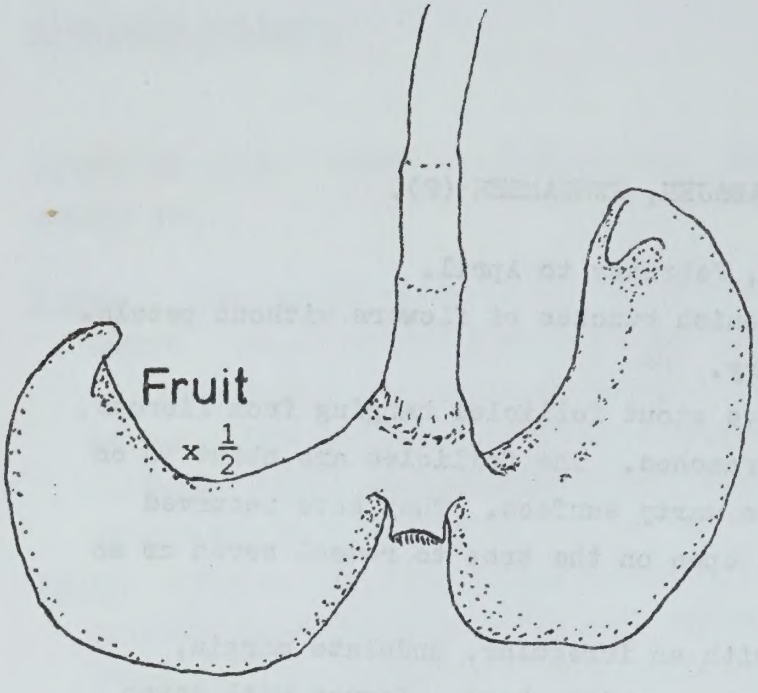
Uses: Medicinal; Boil or soak the bark in water, and drink for constipation (Mansajang Kunda, U.R.D. 18/3/79 and Saruja, M.I.D. June 1978).

Split up the small branches, soak in water and drink to increase power of urination (Lamin village, Kombo North, 11/10/78).

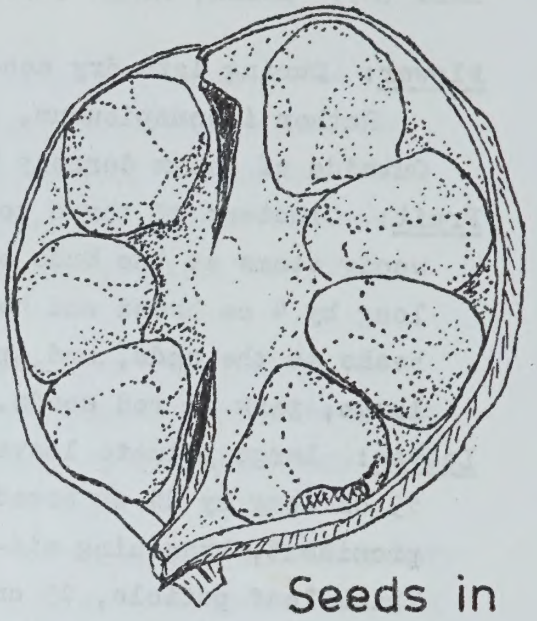
Take the inner bark, dry, pound and apply to a swollen finger or thumb. This helps to get rid of pus (Mandinari village, Kombo North, 17/5/79).

The root from the eastern side of the tree, when split up, put in a bottle with water added, and taken in, helps to get rid of gonorrhoea.

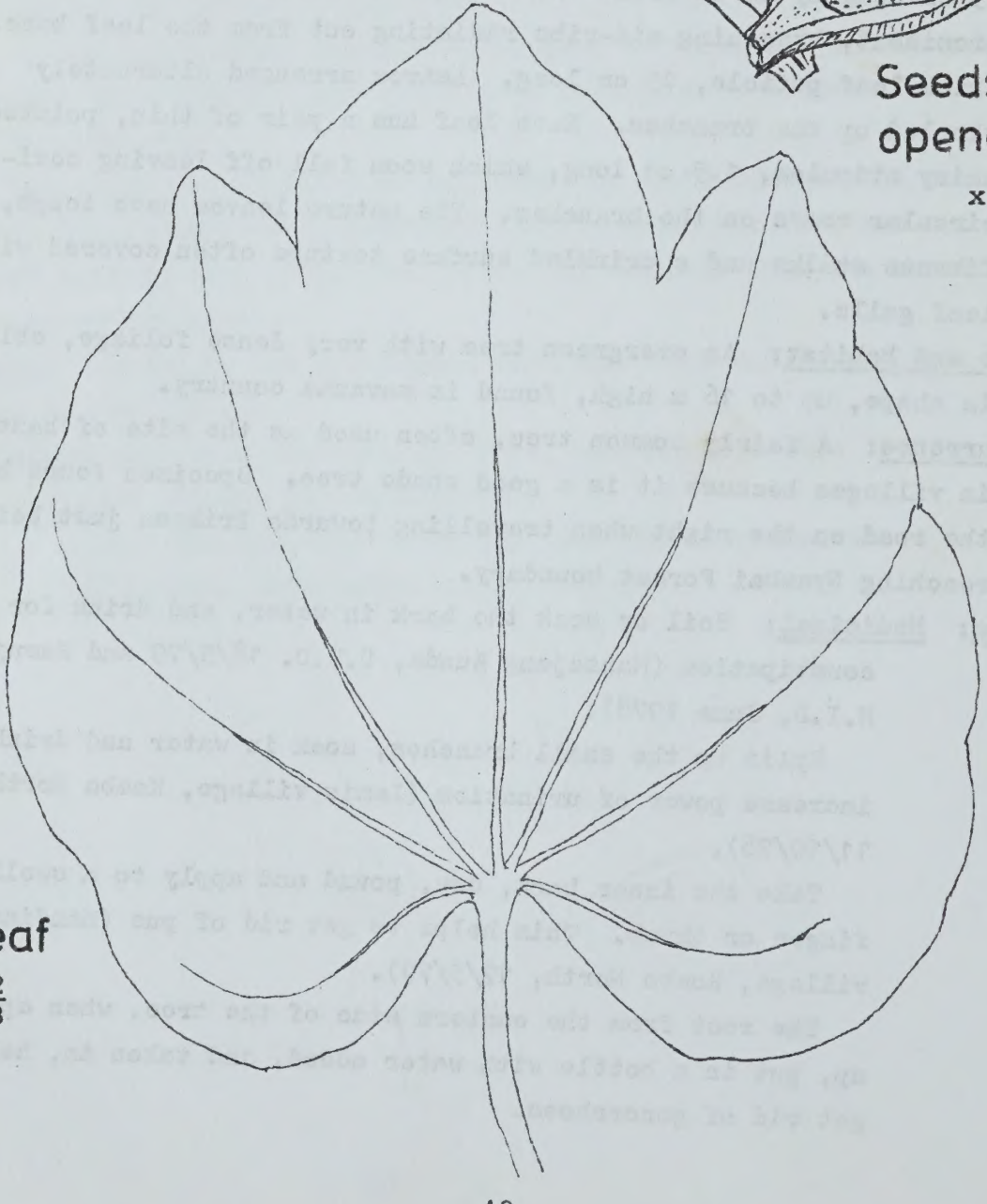
Cola cordifolia



Fruit
x $\frac{1}{2}$



Seeds in
opened fruit
x $\frac{2}{3}$



Leaf
x $\frac{2}{3}$

Uses: Medicinal continued; In Gambia, according to Dawe, the juice from the petiole is used by Mandinkas for sore eyes. Trochain describes the treatment of leprosy in Senegal by a fermented extract of the leaves taken internally and as a bath (Appendix to the 'Flora of West Tropical Africa', page 105).

Other; The fruits are eaten by small children and I have found that some villages and families consider this tree sacred. Certain Jola families living in the Fonis consult the tree before big events such as a boy's circumcision ceremony.

Bombacaceae

There are three genera mentioned in the 'Flora of West Tropical Africa' all of which occur in The Gambia. These are Adansonia, Bombax and Ceiba. They are all large, common trees with digitate leaves, sometimes large, showy flowers and with pendant fruits.

Adansonia digitata, The Baobab Tree, is usually found in groups associated with villages or former settlements. The pounded leaves are used in sauces and the white acid pulp of the fruit is made into water ices. The tree is also used medicinally though little of this information was collected by the author. Local names for the tree include SITO (M), GUI (W) and BOKI (F).

Bombax buonopozense, The Red Flowering Silk Cotton Tree, is widely distributed around the country. It produces large red, or orange flowers in the dry season. The medicinal uses of the tree seem to be known on a very local basis. Local names include BUNKUNGO (M), and JOHI (F).

Ceiba pentandra, The White Flowering Silk Cotton Tree, is described in detail in the text.

Ceiba pentandra The White Flowered Silk Cotton Tree

BANTANGO (M): BENTENG (W): BUSANA (J): BENTEGNIEVI (F).

Flower: During February and March in the Kombos.

Flowers borne on the tree when leafless, arising in white clusters. Calyx about 1 cm, with five short, broad lobes. Petals 2 - 2.5 cm long, with silky hairs on the outside, stamens fifteen united into five separate bundles.

Fruit: An ellipsoid pod up to 30 cm long, pale brown when ripe, splitting by four or five valves on the tree to release black seeds surrounded by balls of grey floss or silky hair.

Leaves: Digitate, with eight to fifteen leaflets, sessile, lanceolate to oblanceolate, 10 - 20 cm long, by 3 - 4 cm broad, entire or slightly toothed in the upper part.

Size and habitat: A tree up to 66 m high with large buttresses.

Occurrence: Found in forest areas and planted in villages. Example specimen in the grounds of Yundum Primary School and in the wooded areas behind Lamin village.

Special remarks: Local people distinguish two types of tree: BANTANG-FORO (M), without prickles, and another BANTANG-JONGO (M), with stout prickles.

C. pentandra is probably an ancient introduction from tropical America.

Uses: Medicinal; Boil the bark and drink the water for stomach ache and to prevent abortion (Jar Kunda, U.R.D. 24/3/79).

Take the roots from East and West of the tree, boil them and inhale the steam with a blanket over the head. Swill the mouth with some of the boiled water for toothache.

Other; The wood is sawn for timber and is also used to make wood carvings.

The white, silky floss from the ripe fruits is used to stuff pillows.

Euphorbiaceae

This is a very diverse family which can be split into four tribes. The 'Flora of West Tropical Africa' recognises sixty-five genera, but only a few of these occur in The Gambia. The division into tribes of this family is based on: presence or absence of petals, whether the male and female flowers are enclosed by a common involucre, and the presence or absence of milky sap.

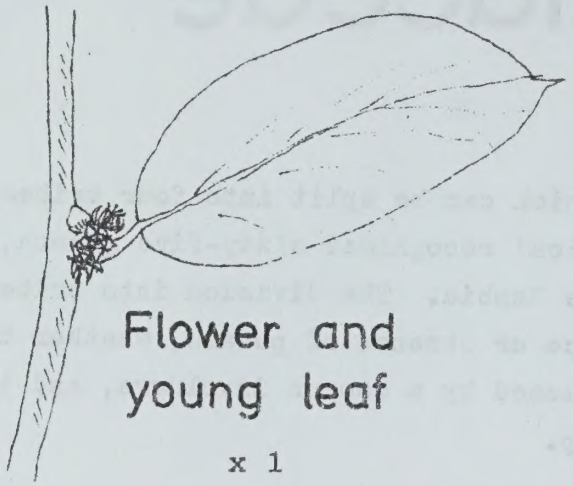
Tribe I: Phyllantheae:

Bridelia, Antidesma, Hymenocardia, Phyllanthus and Securinega have been found in The Gambia. Detailed notes have been taken on the first of these, Bridelia, which occurs in closed-canopy forested areas.

Tribe III: Crotoneae:

This is the largest tribe mentioned in the 'Flora of West Tropical Africa'. The following genera have been recorded in The Gambia: Croton, Jatropha, Caperonia, Chrozophora, Mallotus, Alchornea, Macaranga, Ricinus and Manihot. Of these, Jatropha curcas, widespread through the country, is grown as a live fence and has some medicinal properties, while Alchornea cordifolia grows extensively in the Kombo region, especially at Abuko Nature Reserve and in Kabafita Amenity Belt as a bushy weed. Ricinus communis, the Castor Bean Plant, is widespread on waste land in and around villages. Manihot esculenta, Cassava, is a familiar compound crop grown mostly for the tubers while in Sierra Leone the leaves are made more use of in soups and sauces.

Bridelia micrantha

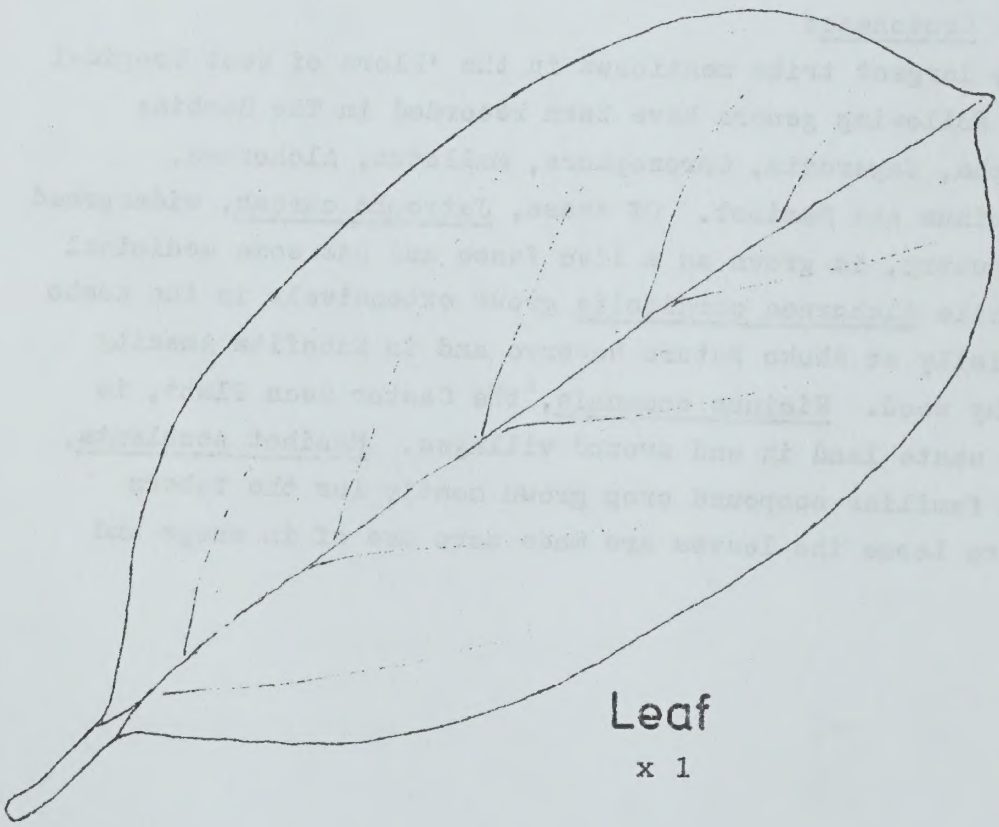


Flower and young leaf

x 1

Last year's cracked fruit with seed exposed

x 2½



Leaf

x 1

Bridelia micrantha

BISAKO, BUSAKE (M): WULAKIR (J).

Flower: Found in June 1979 in Kabafita Amenity Belt.

Green flowers, fairly inconspicuous, about 4 mm wide in groups in the axil of the leaf with no flower stalk. Petals very much reduced to a collar, with five, green, valvate sepals. Five small stamens springing up from the centre. Has a pleasing, weak scent.

Fruit: An oval drupe about 1 cm long. Green, turning purple, and then black when ripe.

Leaves: Young leaves alternate, elliptic to ob-ovate, 7.5 cm long by 2.8 cm broad, smooth on both surfaces, with a thickened hairy petiole. Leaves with seven pairs of nerves, and one that extends around the perimeter of the leaf. The young shoots have thin stipules which drop off easily. The young, green stems are hairy.

Size and habitat: An under-shrub of savanna woodland regions, usually up to 3 m high, but can grow up to 16 m high.

Special remarks: Wood smooth, light grey or whitish coloured bark, sometimes with thorns present.

Uses; Medicinal; Take the inner bark and chew, swallow the juice to relieve stomach ache. Boiling the roots with a chicken would help to cure the same thing (Sutukonding, U.R.D. 24/3/79).

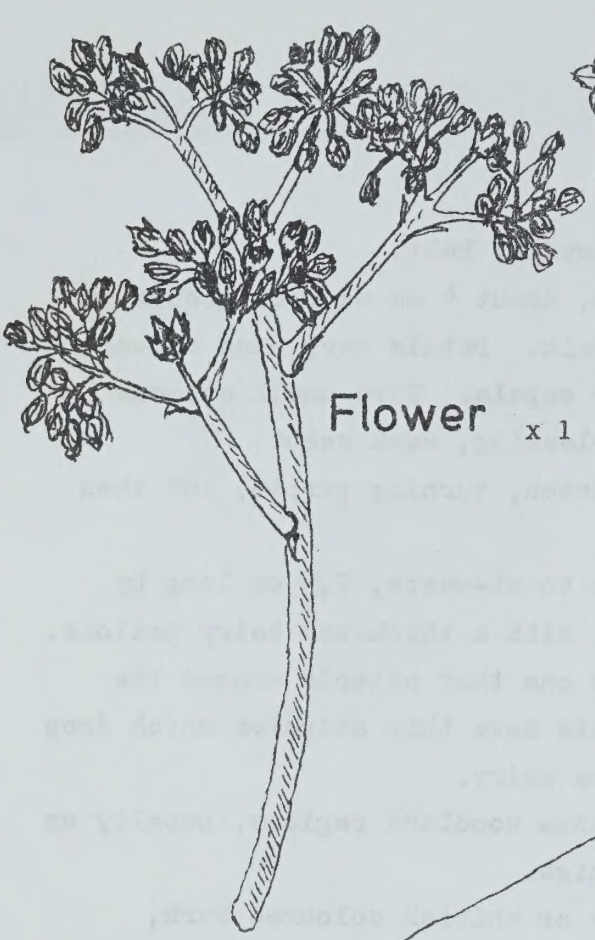
Pound the soft bark, mix with water and milk and sieve with a cloth. Drink the liquid to cure dysentery (Nanette, Kombo Central, 11/11/78).

To help women who have difficulty in conceiving, cook food in the boiled water of the roots (Dasilame, Kombo Central, 28/11/78).

Other; Pound the inner root and mix with the pounded bark of Baobab, and use as a glue for boots and shoes.

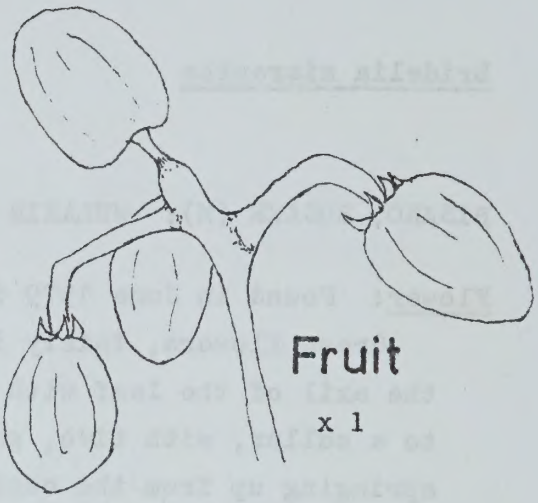
Take the red bark, pound it, add water and use it to plug holes in canoes (A M Drammeh, Lamin, Kombo North, 22/5/79).

Jatropha curcas



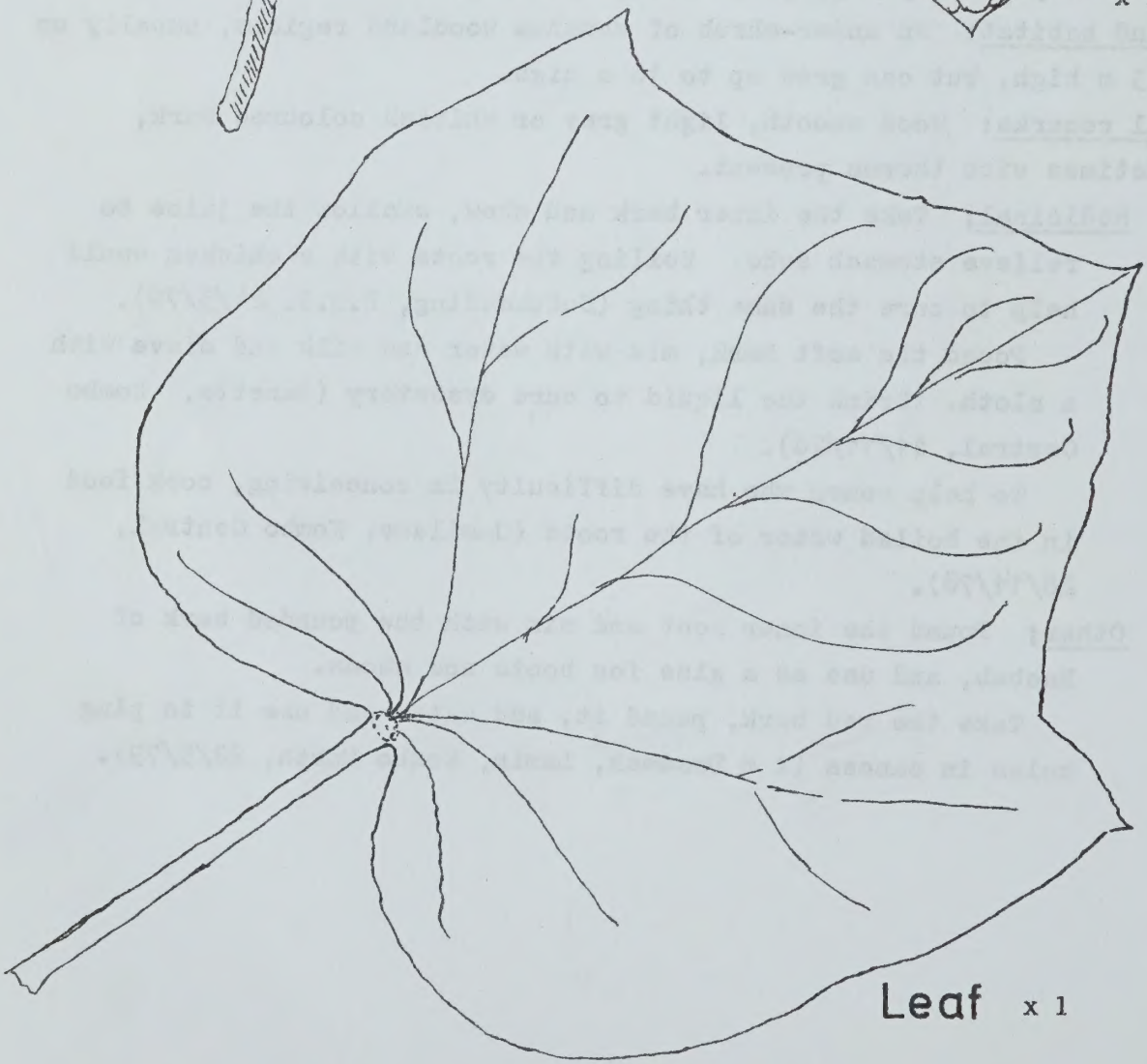
Floret
x 2

Flower x 1



Fruit
x 1

Open mature fruit
x 1



Leaf x 1

Jatropha curcas The Fig Nut, or Pig Nut.

TABANANI, BUYIRO (U.R.D.), TUBAB TABO (M): TABANANI (W):
CHIDIGEH, KIDI (F).

Flower: In the early rains, June and July (near Sapu).

Inconspicuous panicles of yellow-green flowers. Sepals five, petals five, hairy inside. Each floret 8 mm long, stamens yellow.

Fruit: A black, ellipsoidal drupe about 2.5 cm long when ripe.

Leaves: Variable in shape, but usually five-lobed, heart-shaped, cordate at the base with seven prominent veins radiating from the leaf stalk. Leaves 8 cm long by 7.5 cm wide, with an 8.5 cm leaf stalk.

Size and habitat: A bush or shrub, 2 - 2.5 m high, growing mostly as a live fence or hedge on compound boundaries. Stems and branches smooth, often cut back to produce thickening. Well adapted to poor, dry soils.

Occurrence: Widespread in most villages in The Gambia.

Special remarks: The seeds, and the oil obtained from them, have poisonous qualities. Yet the young foliage is cooked and eaten in Indonesia.

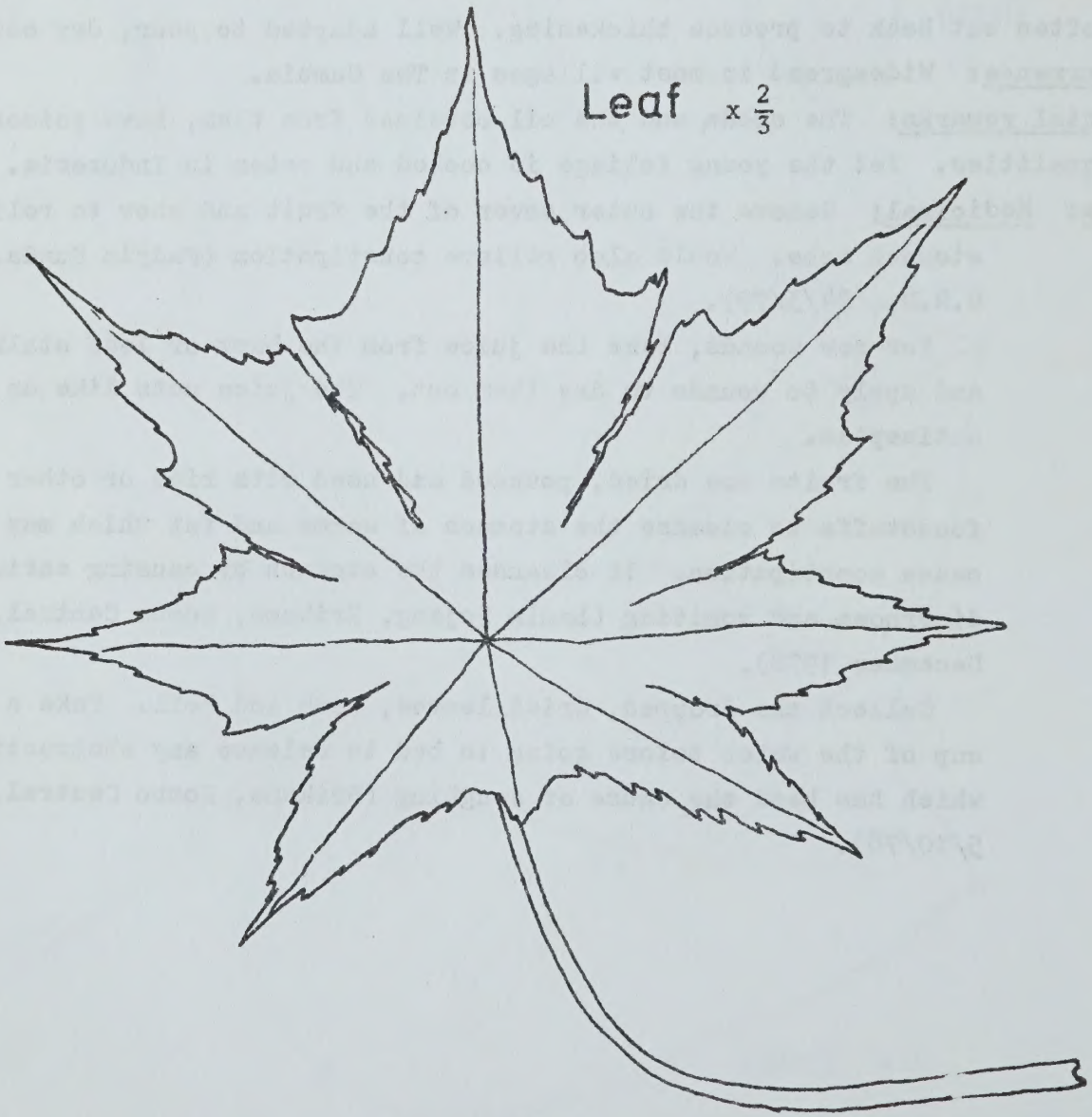
Uses: Medicinal; Remove the outer cover of the fruit and chew to relieve stomach ache. Would also relieve constipation (Fadyia Kunda, U.R.D., 24/3/79).

For new wounds, take the juice from the bark or leaf stalk and apply to wounds to dry them out. The juice acts like an antiseptic.

The fruits are dried, pounded and used with rice or other foodstuffs to cleanse the stomach of worms and fat which may cause constipation. It cleanses the stomach by causing serious diarrhoea and vomiting (Lamin Bojang, Brikama, Kombo Central, December 1978).

Collect the dropped, dried leaves, wash and boil. Take a cup of the water before going to bed to release any obstruction which has been the cause of coughing (Brikama, Kombo Central, 5/10/78).

Ricinus communis



Ricinus communis The Castor Bean Plant, or 'Palma Christi'.

Flower: During March and early April.

Flowers in large panicles, the males below and the females above. Florets yellow.

Fruit: A close-knit cluster of three-lobed, spiny fruits on a long terminal spike. The immature fruits develop spines at a very young stage when breaking out of the smooth bracts which cover the young ovary. The mature fruit is brown, about 1.5 cm long, borne on a long, thin, woody stem. Each lobe contains a shiny, oval seed with black and grey striped markings looking like a tick.

Leaves: Opposite, palmate leaves on 16 cm long petioles. The leaf is similar to that of a paw-paw except that the lobes are serrate and not sub-divided as in paw-paw. Both stem and petioles smooth, but usually woody. The large oval stipules join into a sheath and enclose the buds.

Size and habitat: A compound plant, though occasionally found in the bush. It is a shrub, 1 - 1.5 m high, but the stems can become woody and the 'shrub' can grow considerably higher.

Occurrence: Seen in compounds in Busembala, Kombo North; Sabi village, U.R.D. and at the bottom of the fields behind Gambia High School. Thought to be widespread up and down the country.

Special remarks: The seeds are very poisonous if ingested.

Uses: Medicinal; The seeds have to be well roasted before being pounded, mixed with water, and taken in for stomach ache (Busembala, Kombo North, 4/5/79).

Caesalpiniaceae

This is the first of three largely pod-bearing families of plants more widely known as legumes. The 'Flora of West Tropical Africa' lists 58 genera, a good proportion of which are to be seen in The Gambia. Amongst them are some large trees of savanna woodland and some very resilient, colonizing shrubs and bushes.

As more and more woodland is cut down, the larger savanna trees are becoming less and less common. Those of Cordyla, Dialium, Detarium and Tamarindus seasonally provide edible fruits which may be found on sale in the markets and being used in provincial villages. Small trees or bushes, such as Bauhinia, Piliostigma, and the Cassias may be seen widely in the bush and in urban areas as exotics. Cassia sieberiana is a locally well-known medicinal plant, which the bark of Piliostigma thonningii provides a good bush rope.

Other species have a very dense timber which may be termite-resistant such as Prosopis africana or may be used for making wooden utensils as in the case of Cordyla pinnata for mortars.

A large number of African genera have a much reduced calyx, but also correspondingly, have a large pair of opposite bracteoles which enclose the flower in the bud. These bracteoles may be easily mistaken for the true calyx. Quite often in the 5-part, irregular flowers, the petals may be reduced or absent while the stamens are prominent as, for instance, with Daniella oliveri, Cordyla pinnata and Afzelia africana. The leaves are alternate, usually pinnate or bipinnate.

The following genera have been observed in The Gambia: Bauhinia, Piliostigma, Swartzia, Cordyla, Dialium, Cassia, Detarium, Cynometra, Afzelia, Daniella, Crudia, Tamarindus, Mesoneuron, Delonix, Parkinsonia, and Erythrophleum.

Cordyla pinnata "Bush Mango"

WULO-KONO-DUTO (M): DIMB (W): DUKI (F): KALIA (F): TUK (F).

Flower: During February and early March.
The flowers occur in white clusters at the ends of the branches. Each floret is a globose mass of white or pale yellow stamens, 12 - 15 mm diameter. The ovary is borne aloft on a stalk 1 - 1.5 cm long.

Fruit: Large, ellipsoid, plum-like drupes turning from green to yellow when ripe. The flesh of the fruit is mucilaginous and contains two or three long, thin, kidney-shaped seeds.

Leaves: Imparipinnate, with five to seven pairs of leaflets. Each leaflet elongated, ellipsoid, up to 6.5 cm long by 3.5 cm broad, rounded at base and at apex where slightly indented, mid-rib prominent on under surface. Leaflets smooth on both surfaces, but not waxy. Leaves alternate up the stem.

Size and habitat: A medium sized tree, 6 or 7 m high, of open savanna. Often has a gnarled or twisted trunk, with a corky, fissured bark having black contour lines.

Occurrence: Found in the fields and bush of the Fonis and in McCarthy Island Division, but few in the Kombo region.

Uses: Medicinal; Soak or boil the bark in water and drink for stomach ache and taking out worms (Bakadagi, U.R.D. 23/3/79) and (Fadyia Kunda, U.R.D. 22/3/79).

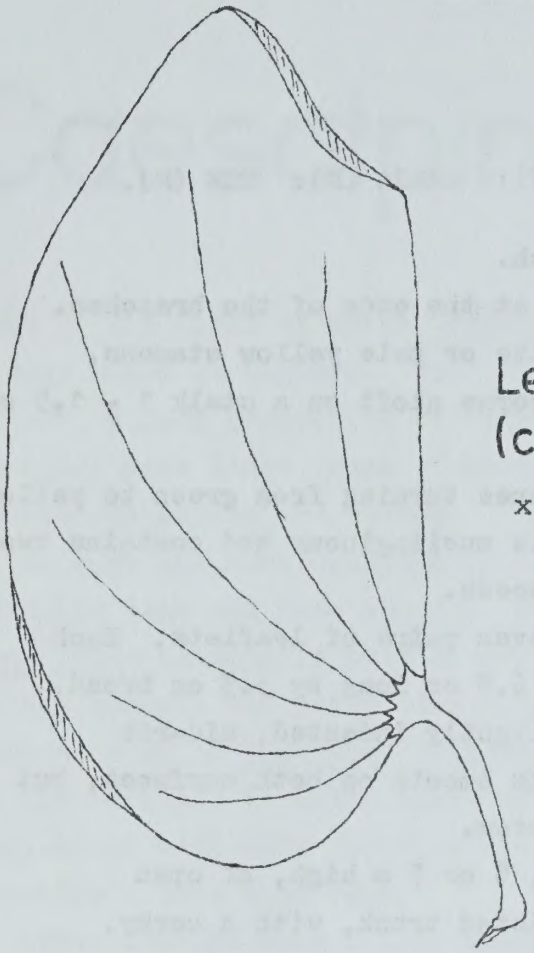
The roots and fruits when boiled and the water taken in, would help to cure chest and stomach pains. (Lamin, Kombo North 11/10/78).

The bark is regarded as a purgative and along with the leaves is used medicinally for horses and cattle (Appendix to Flora of West Tropical Africa p. 235).

Other; The unripe fruits are cut and dried in the sun, mixed with groundnuts and used in a food called 'Futo' (M).

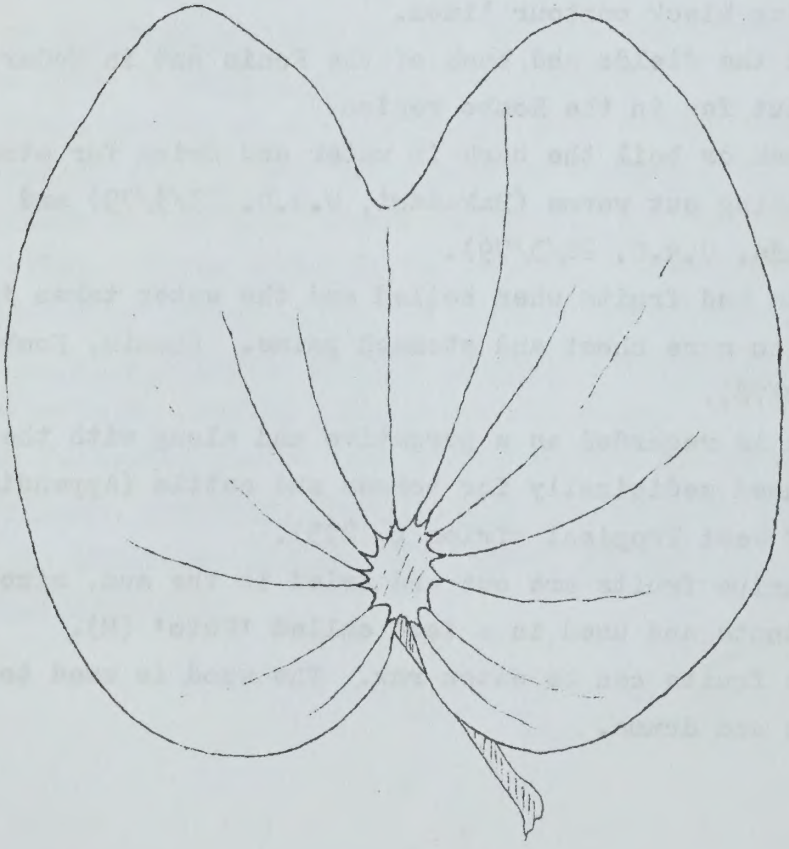
The ripe fruits can be eaten raw. The wood is used to make mortars and drums.

Piliostigma thonningii



Leaf
(closed)

x 1



Leaf
(open)

x 1

Piliostigma thonningii

FARA (M): GIGIS (W): BARKI (F).

Flower: Seen flowering in November.
The flowers are white but not very conspicuous, surrounded by a brown, hairy calyx.

Fruit: A large, velvet-covered, light brown pod with numerous seeds inside which rattle when shaken, 15 cm long by 5.5 cm wide, somewhat contorted but fairly thick. Pod has a pronounced beak and a woody 2 cm petiole.

Leaves: Fresh young leaves produced in April and May. The young leaves develop from bud in the folded form, where the two lobes of the leaf are folded over each other and only the hairy lower surface of the leaf is exposed. As the leaf matures, it unfolds and opens out. Leaves simple, bi-lobed, 7.5 - 16 cm long by 10 - 18 cm broad. The upper surface smooth and waxy, while the lower surface is hairy and has a palmate arrangement of prominent midribs. Petiole 5 cm long, thickened at the end.

Size and habitat: A small tree or shrub found in woodlands and colonizing recently cultivated land. The trees have thick black or grey-fissured bark with spindly branches.

Occurrence: Widespread throughout the Gambian countryside.

Special remarks: Another species, P. reticulatum may be found, but the leaves are smaller and smooth beneath. Mature fruit also is without hairs.

Uses: Medicinal; Take the flowers, pound, put in food and eat - or put the powder in water and drink, - or smoke powder in pipe. Helps to cure coughs.

Take the inner bark and squeeze the juice from it on to wounds. These would heal within a week.

If ingested, this juice could make one go dizzy. KANKORANG (M) dancers use the juice to obtain this effect (26/11/78).

Take the 'JAMBADING YELIBALO' (lit: the small leaves not yet open) boil and wash the eyes three times a day for pain around the eyes (Malang Drammeh - Lamin 24/5/79).

Other; The orange inner bark of FARA can be made into a good bush rope. The bark is also used in making the dress of Kankoran dancers.

Dialium guineense

KOSITO (M): SOLOM (W): KEBEDE (F): MEKO (F): NGALU (Serahuli).

Flower: Found on 19/12/77 and on 28/12/77 in full bloom in Kabafita Forest.

Flowers occur in flat panicles of alternately branched racemes. They are fairly inconspicuous, yellow-green, sepals five, petal one, with style and stigma opposite the petal. Black ovary mounted on a short stalk with a green 2 mm style. Stamens two, 3 mm long, with black anthers.

Fruit: Rounded or heart-shaped fruit, dark brown or black with a velvet coat, 1.5 cm in diameter. Fruit flattened containing brown, edible seed. Fruits in bunches on woody stems.

Leaves: Two pairs of leaflets, imparipinnate. Leaflets 11 - 12 cm long by 5 cm broad, with thickened 6 mm petiole, oval, entire margin, shiny upper surface, smooth on both surfaces, tapering leaflet apex.

Size and habitat: An evergreen bush or tree, 5 - 7 m high, with dense foliage and spreading character. Bark smooth, light grey or brown. Usually found in moist or shaded places.

Occurrence: Found at Kabafita Forest and also in Abuko Nature Reserve, but not very common.

Uses: Fruit edible, seen on sale in the markets during August and September.

Afzelia africana

LENKO (M): FOK (W): LENGUE (F): NENKO (J): GONGO (Manjago).

Flower: During April.

The flowers occur in large, terminal heads on branched flower stalks. The florets sit upright on 7 - 8 mm stalks, each floret consisting of two pairs of opposite bracteoles, an inner and an outer pair, light green, 8 - 9 mm long. The calyx is much reduced to a collar and there is one petal, greenish-white with red honey-guide markings in the elongated, hairy throat. Petal 1.6 cm long with two lobes at the apex. The flattened ovary, superior, with a long, curved style. Prominent stamens set in two groups of four of varying height. Filaments and style having fine hairs.

Fruit: A hard, woody pod with very pronounced apical beak. Pod smooth-skinned, dark brown, 13 cm long by 7 cm wide and approximately 2 cm thick before splitting. Contains several black seeds which are surrounded at the base by a bright orange cup.

Leaves: In four pairs. Leaflets 13.5 cm long by 6.5 cm wide or smaller, with 1 cm petiole, oval/lanceolate, upper surface smooth and waxy, prominent midrib with 12 pairs of opposite veins. Each leaflet has a white, emarginate vein. Unequal apex.

Size and habitat: A large tree, up to 30 m with dense foliage, found in savanna woodland, but not common.

Occurrence: Specimens of trees found in the bush near the road between Busembala and Farato (Kombo Central), and another tree inside Kabafita Forest. Also said to be found in Kombo East.

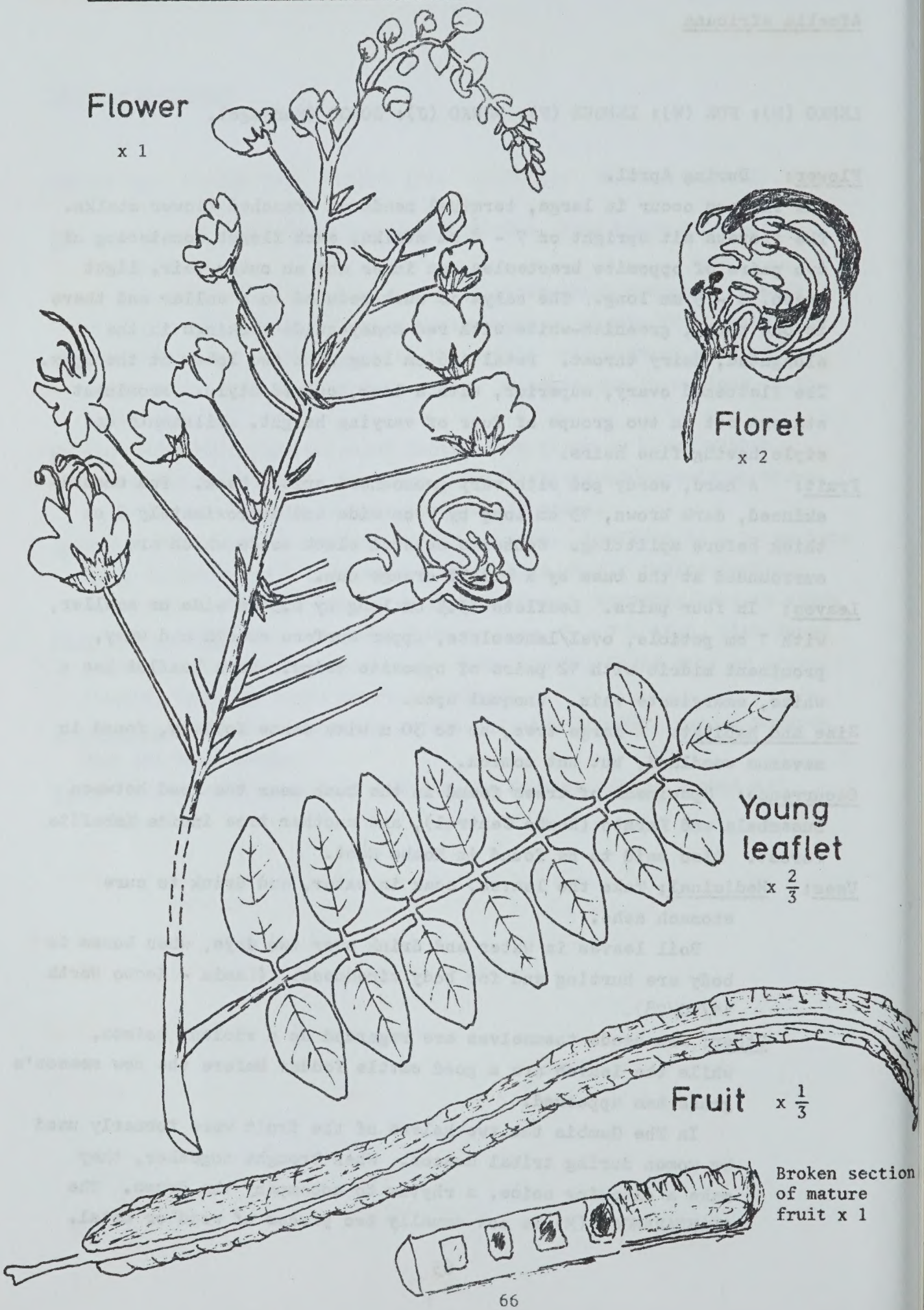
Uses: Medicinal; Take the leaves, soak in water, and drink to cure stomach ache.

Boil leaves in water and drink over two days, when bones in body are hurting and for body tiredness. (Lamin - Kombo North 11/10/78).

Other; The seeds themselves are regarded as a violent poison, while the leaves are a good cattle fodder before the new season's grass has appeared.

In The Gambia the two halves of the fruit were formerly used by women during tribal dances. When brought together, they make a clacking noise, a rhythm to accompany the drums. The 'PAMPARANGO' (M) is now usually two pieces of wood or metal.

Cassia sieberiana



Cassia sieberiana

SINJANGO (M): SENJEN (W): SAMA SINJANG (F).

Flower: A fairly extended flowering period through March into April. The flowers are very showy, pendant yellow racemes. Each raceme about 35 - 40 cm long. Flowers on 4 cm stalks, bracteoles five, each 1 cm long, which curve right back when the flowers fade. Petals brilliant yellow, up to 2.5 cm long, with secondary venation present. Stamens ten, a large set of five and a smaller set.

Fruit; Very long, straight, thin, pendant pods which generally persist on the tree well into the dry season. When ripe, they turn from green to black and break up into sections.

Leaves: Imparipinnate leaves with five to eight pairs of leaflets. Each leaflet 6 cm long by 4 cm broad, having a shiny or waxy upper surface, smooth on both sides, oval, margin entire.

Size and habitat: Mostly found as a large shrub or small tree 3 - 5 m high in woodland and open savanna. Seems to occur in groups.

Occurrence: Found widely in the bush and also seen in Casamance.

Uses: Medicinal; The new leaves when boiled and the water taken in could help to relieve tiredness after heavy manual work.

The orange and discoloured leaves when boiled with the fruit and taken in could help to get rid of fever after a period of two days. Also stoop over the boiling water under a blanket to relieve general body pain and malarial fever.

The water from boiled roots would help to cure serious stomach ache, take out worms, relieve back pain (Mansajang Kunda U.R.D. 18/3/79, Sutukonding U.R.D. 24/3/79) and lessen exhaustion from running (Sutukonding U.R.D. 24/3/79).

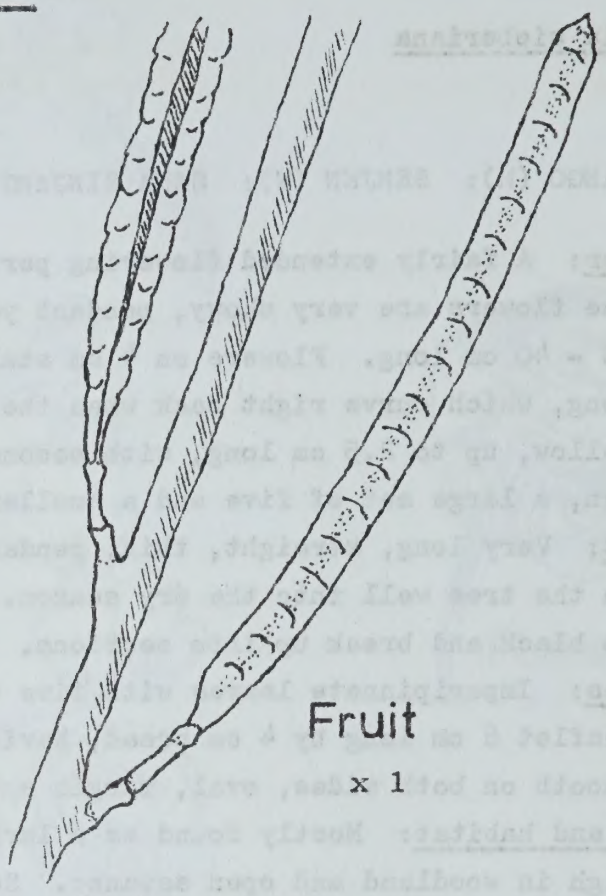
An infusion made from the root steeped in water is given for a diuretic condition popularly known in The Gambia as 'yellow fever', but the symptoms described are closer to jaundice.

The pounded roots, mixed with those of SORA (M), and boiled with onions and coos would help to cure V.D.

The bitter roots act like a purge and may be dangerous in large doses.

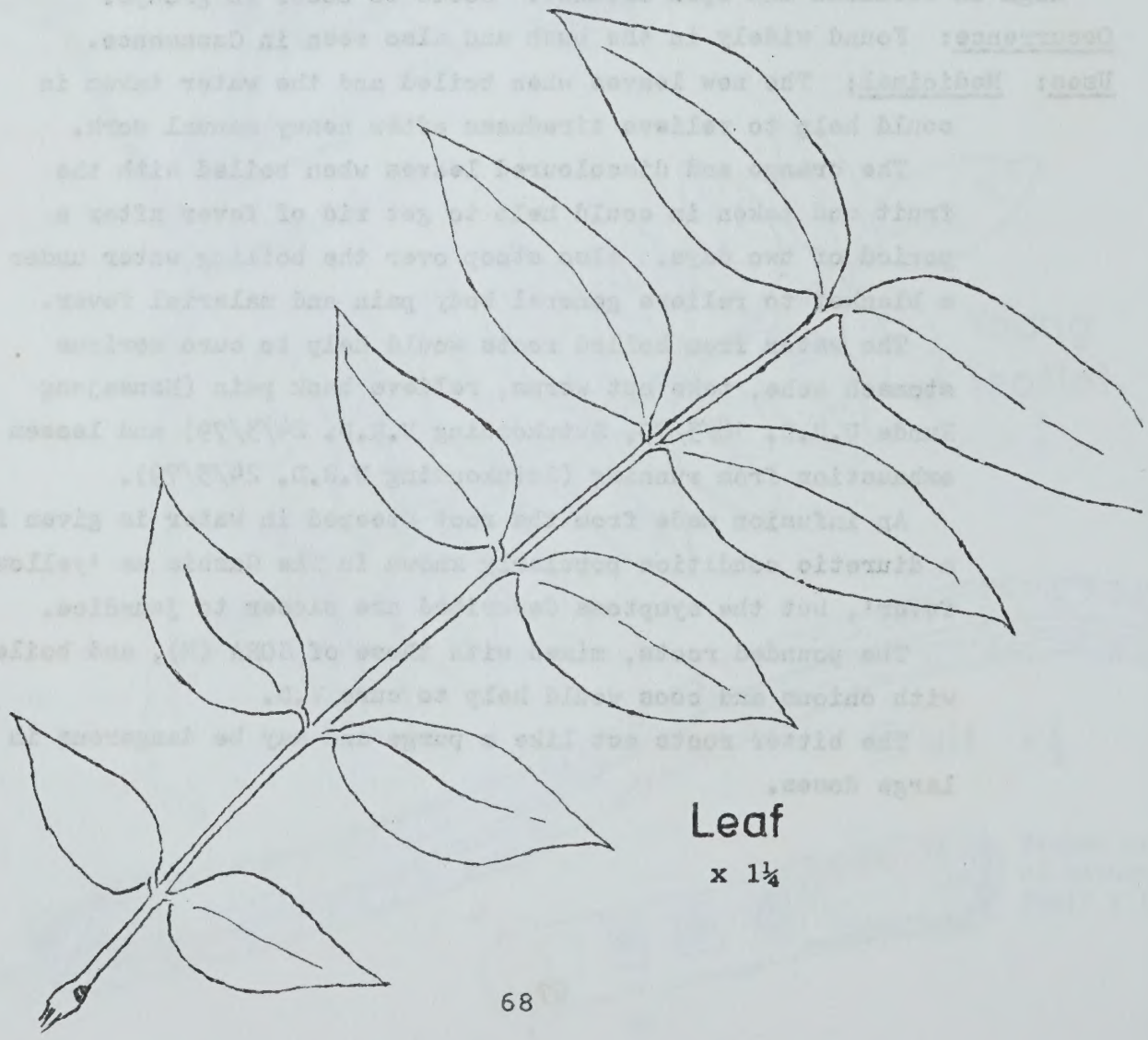
Cassia occidentalis

Flower x 1



Fruit

x 1



Leaf

x 1¼

Cassia occidentalis Wild Coffee or Stinking Pea

KASSALA (M): BANTAMARE (W): LUBALUP (F): TIGA SOWRU (F): KAFUTA BUNANG BANG (J).

Flower: Seen flowering most of the year round, November, December and also in April and May.

Typical 5-part yellow flower with two small sepals and three larger ones. Stamens ten, unequal in size. Flowers borne in terminal and axillary positions.

Fruit: An elongated, curved, flattened pod with 15 mm stalk. Seeds inside pod lying at an angle to the vertical axis of the pod. The ripe brown seeds are rectangular and flattened at each end.

Leaves: Five pairs of leaflets, 3.5 - 4 cm long by 17 - 18 mm broad, oval, acuminate at the apex. Margin of the leaflet has fine hairs. Base of each rachis has a nodular gland. Stem of the plant red coloured.

Size and habitat: A biennial herb, growing on waste places and beside paths in villages. A stout, erect herb, sometimes up to 1 m high.

Occurrence: Widespread in most villages.

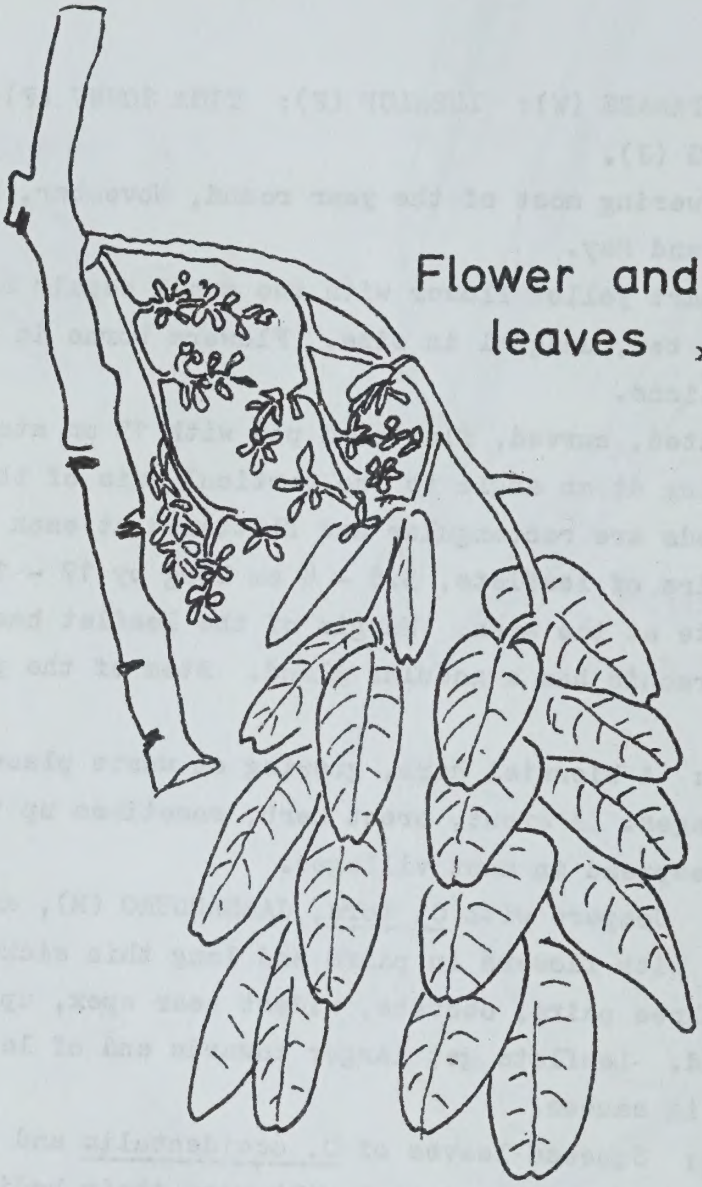
Special remarks: Compare with C. tora, JAMBANDURO (M), an annual herb 1 - 3 m high, with flowers in pairs and long thin sickle-shaped pods. Leaflets in three pairs, obovate, widest near apex, up to 6 cm long and 3 cm broad. Leaflets get larger towards end of leaf. Leaves eaten widely in sauces.

Uses: Medicinal; Squeeze leaves of C. occidentalis and give to children to drink and wash with when their bodies are hot or when suffering from headache. Also wrap leaves around forehead for headache (Busera - Kombo Central, November 78), (Sabi, U.R.D. 19/3/79).

For backache, boil the leaves and put this water into a container, so that it would cover a person's body up to waist height when sitting down (Manduar - Kombo East, 26/11/78).

Other: The seeds are poisonous until roasted and may then be used as a coffee substitute.

Detarium senegalense



Flower and young leaves x 1

Last year's fruits x 1

Detarium senegalense 'The Tallow Tree'

TALLO (M): DITAKH (W): DOLE, KARKEHI, BOTO-BURUREH (F): BUTCKANJACK (J).

Flower: During April.

Flowering occurs after the tree comes into full leaf on new growth. Flower stems branched and white or cream florets are arranged in opposite clusters up the branches. Bracts four, unequal, 3 - 4 mm long. Stamens five, cream coloured, extremely curled, surrounding a hairy ovary with a brown curled style. Florets easily drop off.

Fruit: A non-shiny, green-brown drupe, rounded, 5 - 6 cm diameter, but somewhat flattened, with a brittle shell when ripe. Seeds surrounded by a lattice-work of tough strings with soft, sweet, green pulp covering the fibres. Seed covered with a hard, woody, flattened case.

Leaves: Four to five pinnae to a leaf, imparipinnate, leaves 5.5 cm long by 3.2 cm broad with 4 mm toughened petiole, oval - widest at the base, asymmetrical about mid-rib with long veins alternating with short ones. Indented at apex, smooth on both surfaces, upper surface shiny. Rachis of leaf with a slight brown, hairy indumentum. Leaflets hold themselves at right-angles to the rachis.

Size and habitat: A tall tree, 10 - 30 m high, well rounded in outline from a distance, and with dense foliage. A tree of woodlands.

Occurrence: Found growing beside road at Farato and at Nyambai Mills and in Kabafita Amenity Belt.

Special remarks: There is another variety of tree called TALLI KUNANGO (M), BUTO MELIH (F), which yields poisonous fruits. This tree looks very similar to that of D. senegalense, except that the fallen fruits will not have been eaten by any animals. This variety of D. senegalense has been previously named as D. heudelotianum.

Uses: Medicinal; For serious body sickness, take the roots, split them up and put them in a bottle to soak. Drink and wash with the water to relieve pain (Darsilame - Kombo Central, 28/11/78).

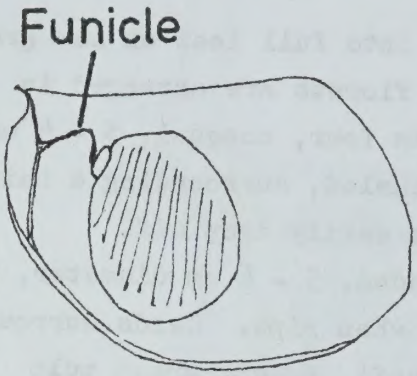
Bark boiled and water taken in to replace loss of blood.

Other; The existence of two varieties of TALLO is acknowledged in 'Appendix to the Flora of West Tropical Africa' page 189, in which fruits of one are said to be edible and of the other are bitter and poisonous (French = mauvais ditah).

The bark of D. heudelotianum is used to accelerate the fermentation of palm wine and to make it bitter.

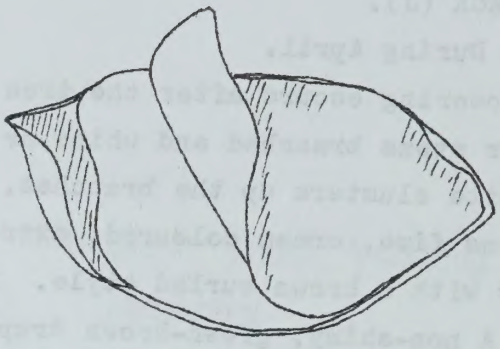
In Senegal, seeds of D. microcarpum are roasted, ground up, mixed with water and cloves and made into fragrant beads which are threaded on to necklaces, known as THIACK-DANKH (W).

Daniella oliveri



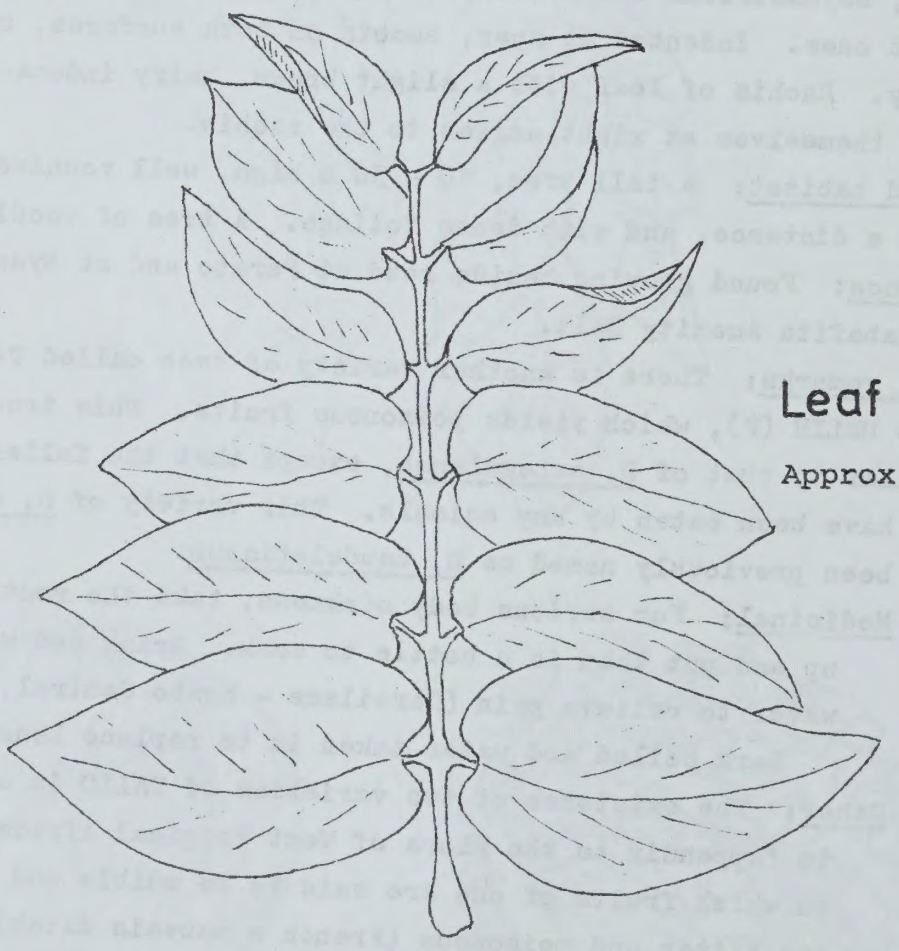
Seed attached to fruit cover

x $\frac{3}{4}$



Splitting fruit

x $\frac{3}{4}$



Leaf

Approx x $\frac{1}{3}$

Daniella oliveri The Incense Tree or African Copaiba Balsam

SANTANGO (M): SANTANG (W): CHERWI, CHERBEH (F).

Flower: During the last two weeks of December.

Flowers occur in panicles 30 cm broad. The florets are inserted on a swollen receptacle and a thick green stalk 2.5 cm long. Sepals are green-yellow, 2.5 cm long. Petals same colour as sepals, with one 1.5 cm long and the other three very much reduced. Stamens ten, 4.4 - 4.5 cm long, anthers yellow and ripen while in bud. Ovary perched on 0.5 cm stalk, style flattened, similar to stamens. Flowers produce a sweet scent.

Fruit: A smooth, pale green, crescent-shaped, winged seed.

Leaves: Four to six pairs of large leaflets, 19 cm long by 9 cm broad. Leaflets tough and leathery, shiny on the upper surface. Leaves lanceolate with tapering apex and thickened 1.5 cm petiole. Underside of leaf has a white, prominent mid-rib with fine hairs along it. Leaf rachis woody and thickened at the base. The young, finger-like leaf buds are reddish in colour.

Size and habitat: A large savanna tree, up to 30 m high, cone-shaped outline from a distance. The mature trees have slender trunks with light grey or brown bark which often flakes off in squares.

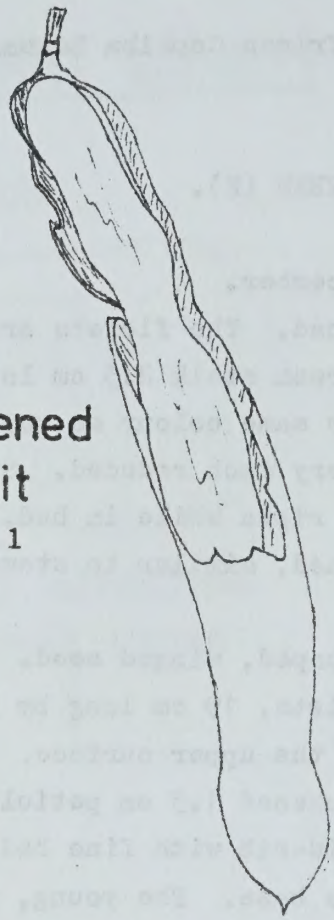
Occurrence: A common savanna tree found throughout the bush in the Kombos, and a dominant tree in some woodlands.

Uses: Medicinal; For coughs, take the bark, dry, pound and sprinkle the powder on food or mix with water and drink (Busera, Nov 78)

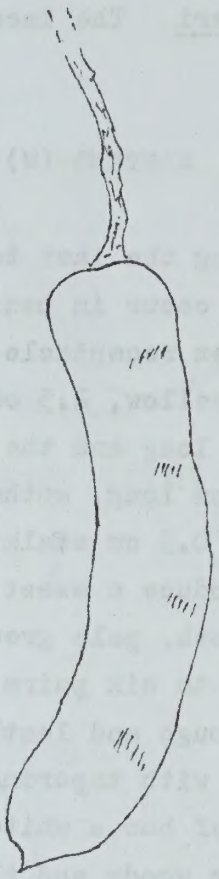
The bark taken from East and West of a tree, boiled, and the water taken in, is good for curing constipation and curing general body sickness (Mansajang Kunda, U.R.D. 18/3/79).

Other: The solidified sap, 'CHURAYO' (M), is collected and sold in markets (along with other tree saps), as an incense or air-freshener.

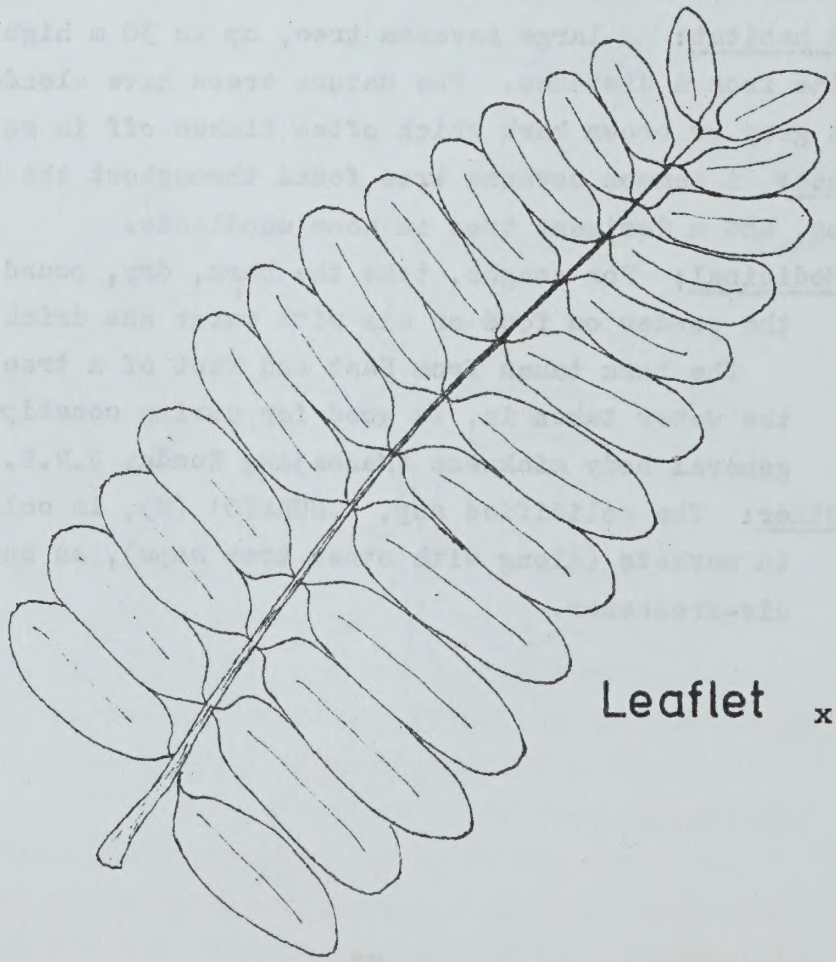
Tamarindus indica



Opened fruit x 1



Fruit x 1



Leaflet x 1

Tamarindus indica Velvet Tamarind tree

TIMBINGO (M): DAKAH (W): JAMMEH (F).

Flower:

Not seen the author, but as described in 'Flora of West Tropical Africa' Vol 1 part 2 page 477: flowers in small terminal racemes with stalks about 5 mm long, Bracts as long as flower bud, sepals four, 7 mm long, petals three, fertile stamens three, alternating with reduced ones.

Fruit: An elongated, light, brown pod with a smooth, fragile or crumbly coat. The pods approximately 8 - 9 cm long, irregular in outline with an apical beak. Mature pods contain shiny, dark brown seeds, 1 cm long, covered by a sticky, stringy, brown pulp.

Leaves: Imparipinnate leaves, alternately arranged along slightly hairy stems. Twelve or thirteen pairs of opposite leaflets per leaf, mature leaflets 3 cm long by 1 cm broad, narrowly oblong, rounded at the apex and unequal at the base, asymmetrical about the mid-rib. Very short petiole with short hairs.

Size and habitat: A medium or large savanna tree with dense dark green foliage. Hemi-spherical outline to the trees from a distance. Also seen along coasts and on sandy soils which suggests that it resists saline soils.

Occurrence: A common sight in the bush of U.R.D. and upper-M.I.D. but much rarer in the Kombos.

Uses: Medicinal; This is one of the trees which Mohammed was supposed to have used when sick. Recommended as a very good general medicine. Take the fruit, soak it in water, and drink this to get rid of worms, constipation, and general body sickness. Not common in the Kombos.(Mandinari Gardens, Kombo North, 14/5/79).

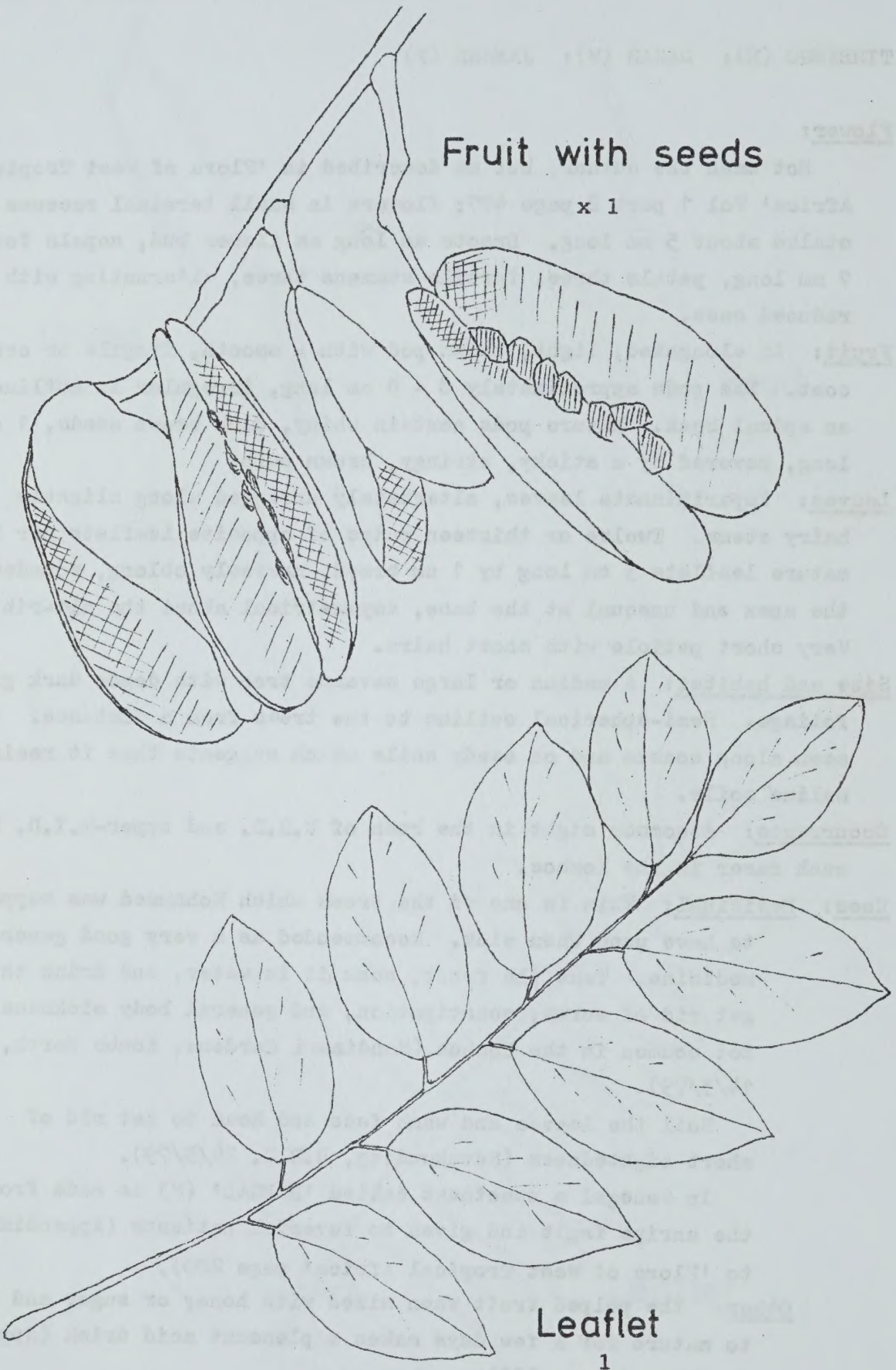
Boil the leaves and wash face and head to get rid of short-sightedness (Sutukonding, U.R.D. 24/3/79).

In Senegal a sweetmeat called 'BENGAL' (W) is made from the unripe fruit and given to feverish patients (Appendix to 'Flora of West Tropical Africa' page 200).

Other: The pulped fruit when mixed with honey or sugar and left to mature for a few days makes a pleasant acid drink (Appendix to 'Flora' page 200).

It is also widely used in confections, condiments and chutneys ('Edible leaves of the Tropics' by Martin and Ruberte)

Erythrophleum africanum



Erythrophleum africanum

TALLINBARO (M):

Flower: Probably early in the dry season but not seen by the author. Flowers in densely hairy panicles of spike-like racemes.

Fruit: Mature pods found on 30/5/79. Pods dark brown and woody, hanging in clusters on the tree. Pods up to 12 cm long by 4.5 cm wide or smaller, containing five black seeds firmly attached by funicles. The oblong pods are round at each end and split open as they hang on the tree.

Leaves: Imparipinnate, with three pairs of pinna and twelve alternate leaflets on each pinna. Leaflets unequal at the base and slightly tapering to rounded at apex, oblong, shiny, smooth upper surface with a slightly hairy mid-rib on under surface. Leaflets 8 cm long by 4.5 cm wide.

Size and habitat: A medium or tall savanna tree, up to 33 m high with brown-grey bark and thick bole.

Occurrence: One specimen found on moist ground, beside a dry water-course behind Busembala gardens, Kombo North, 30/5/79.

Uses: The very poisonous seeds are pounded and mixed with bran and given to sheep or any other animals which persist in entering a person's compound, thus ridding that person of the menace !

Mezoneuron benthamianum Tiger's claw

SOLO-RINGO (M) (lit.: Tiger's claw): NGASIRO (M): DIDA, or NDEDA (W): TEPPE DOROLA (lit.: Look to your heals) (F).

Flower:

A erect terminal spike of yellow flowers. Seen by the author, but not described in detail, therefore description taken from 'Flora of West Tropical Africa': spike up to 20 cm long, petals five, stamens ten, free with hairy filaments.

Fruit: Dark red, membranous, flattened pods 10 - 14 cm long by 3.2 cm wide, with a broad, winged flange on one side. Pods have 1.5 cm stalk and arise from a boat-shaped remnant calyx. Pods have a small beak at the apex and contain four to five seeds. Pods turn brown with age.

Leaves: Eight or nine alternate leaflets, each 2.5 cm long by 1.8 cm wide. Leaflets widest near apex and indented at apex, smooth, roughly oval. At the base of each leaflet is a tiny thorn, while at the base of each branch of leaves there is a thorn also.

Size and habitat: A scrambling climber with vicious, black, recurved thorns. Usually found in moist places such as near vegetable gardens.

Occurrence: Near vegetable gardens and in surrounding bush at Mandinari, Kombo North. Also inside Abuko Nature Reserve.

Uses: In garden fences to prevent animals entering.

Mimosaceae

This is the second of the three legume families represented by twenty-four genera in the 'Flora of West Tropical Africa'. Certain of these are very common and important trees and bushes in The Gambia. The Locust Bean Tree, Parkia biglobosa produces seeds which are a constituent of a traditional Gambian dish, while the leaves have potential as a fertilizer and cattle feed and other parts of the tree are considered to have medicinal value.

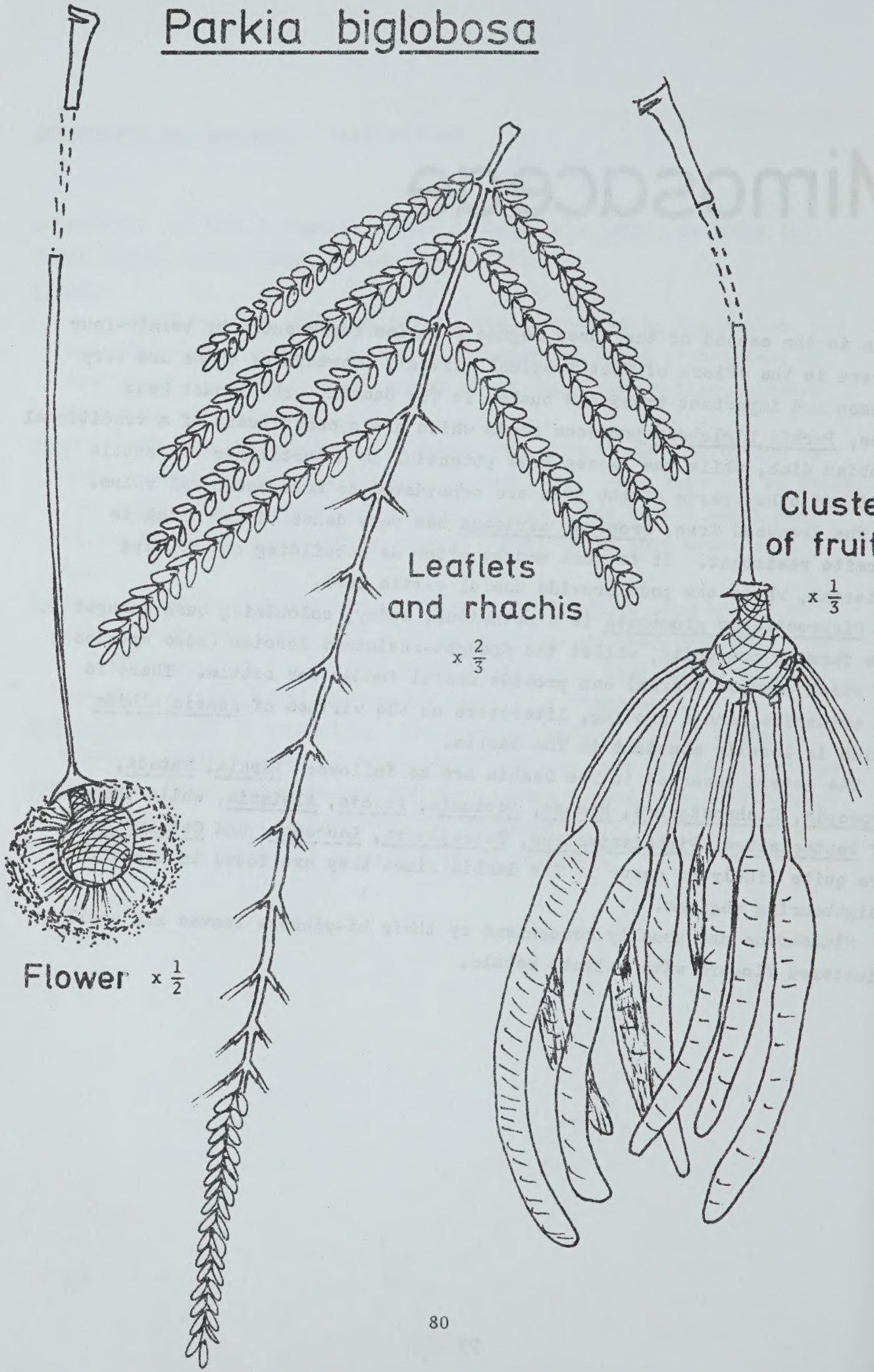
The Ironwood Tree, Prosopis africana has very dense timber which is termite resistant. It is much sought after as a building and fencing material, while the pods provide useful cattle feed.

Dichrostachys glomerata is a notorious, spiny, colonizing bush amongst the farming community, whilst the draught-resistant Acacias (some species of which possess thorns) can provide useful fodder for cattle. There is an extensive, and a growing, literature on the virtues of Acacia albida which is locally abundant in The Gambia.

The genera observed in The Gambia are as follows: Parkia, Entada, Prosopis, Dichrostachys, Mimosa, Neptunia, Acacia, Albizzia, while those of Pentaclethra, Piptadeniastrum, Tetrapleura, Leucaena, and Cathormion are quite likely to occur in The Gambia since they are found in closely neighbouring regions.

Mimosaceae are usually recognised by their bi-pinnate leaves and small clustered flowers with valvate petals.

Parkia biglobosa



Parkia biglobosa African Locust Bean Tree or Monkey Cutlass Tree.

NETTO (M): NETTE, HOULLE, OULI (W): NETTEH, NERRE (F).

Flower: Flowers begin to appear at the end of March.

Large, round 'pompom' flowers, 5 - 6 cm diameter on the end of a 20 cm stalk. Flowers may be red, orange or (very rarely) cream. Corolla tube 1 cm long with purple styles which protrude about 0.5 cm, giving the effect of a pin-cushion. Each floret has five short and five tall stamens which release much pollen from the black anthers. At the base of the flower head is a thin cone of infertile flowers.

Fruit: The fruit consists of a cluster of elongated pods which grow out from the ball-like remnant flower-head. Fruit mature by May or June when the pods split open on the tree. They are about 34 - 45 cm long by 2 cm broad when ripe, slightly curved, smooth, containing about fifteen seeds.

Leaves: Seven to eight pairs of pinna per leaf, with about fifty pairs of sub-opposite pinnules or leaflets. Each pinna 11 - 13 cm long and each leaflet about 9 mm long with a prominent central nerve.

Size and habitat: A medium or large savanna tree, 10 - 20 m high, with a wide-spreading crown. Large trees have a comparatively short bole and large, horizontal branches. The small foliage gives a bright and spacious effect when standing under the tree.

Occurrence: Several specimens in Kabafita Amenity Belt, but widespread throughout the Gambian countryside.

Special remarks: One specimen with cream coloured flowers and stamens found in the bush behind Bahama Camp, Yundum. This may possibly be P. bicolor.

Uses: Medicinal; Dry the bark, pound it and use the powder on food or chew the bark to cure slackened or weakened penis. The disease which causes this, is said to be taken out when going to the latrine.

Take the leaves, roast until dry, pound and apply the powder to burns (Mampata, U.R.D. 19/3/79).

A lotion prepared from the leaves and the roots is used for sore eyes. In The Gambia, Senegal and Guinea the bark is boiled and used as a mouth-wash and to steam the mouth and throat to relieve tooth-ache (Appendix 'Flora of West Tropical Africa' page 218).

Uses: Medicinal (continued); The fresh green fruits are crushed into a container of water and taken by a woman who misses her period or while she is pregnant.

Other; The seeds, and the pulp surrounding them, are used extensively as a food. The seeds themselves are fermented and sold in markets as 'NETTE TUOWO' (M) as one of the ingredients of a Gambian dish known as 'NYANKATANG' (M) or 'MBAHAL' (W). The yellow starchy powder between the seeds is collected and made into a drink with the addition of sugar or milk. This yellow powder can also be used as a medicine for fever during the rainy season. (See 'Flowering Plants of the Gambia' by G M Hallam).

The leaves may be dried and pounded, and used like a fertilizer when the new season's groundnut seeds are planted.

In Senegal, NETTO husks (known as 'KHATA' (W)) are used to increase the pungency of tobacco when added. They are also mixed with indigo to improve the lustre of dyed fabric (Appendix 'Flora West Tropical Africa' page 218).

Local men say that if the fruits are hanging low on the tree, then the rains will be poor and the men will then cultivate less land and nearer to the compound. Conversely, if the fruits are hanging high up on the tree, the rains will be plentiful and more land should be cultivated at further distance from the compound.

Albizzia ferruginea

SAMA TENYO (see also Entada africana) (M): SAMBA TENE (W).

Flower: Found flowering in middle and late May in the bush surrounding Mandinari, Kombo North.

Yellow or greenish-cream flowers in tight heads. Each flower head has a large, central staminal tube surrounded by smaller ones, sticking out of a sheath-like or membraneous corolla. Filaments 20 - 30 mm long, calyx up to 7 mm long with six small teeth covered in a rust-brown indumentum, corolla 10 mm long. Calyx surrounded by small bracteoles at the base. Head mounted on a 5 - 6 cm stalk with rust-brown hairs.

Fruit: A smooth, thin, papery pod, light brown.

Leaves: Three to five pairs of opposite pinnae per leaf. The pair at the end of the leaf with fifteen or sixteen pairs of leaflets, the largest being 20 mm long by 8 mm broad, oblong. The end pair of leaflets of each pinna are always smaller and ovate. Between the leaflets, the end pair of pinnae, and towards the base of the leaf rachis are located rounded glands. Leaflets and petioles covered in rust-brown indumentum.

Size and habitat: Medium sized, or tall, savanna tree up to 50 m high, with a spreading crown.

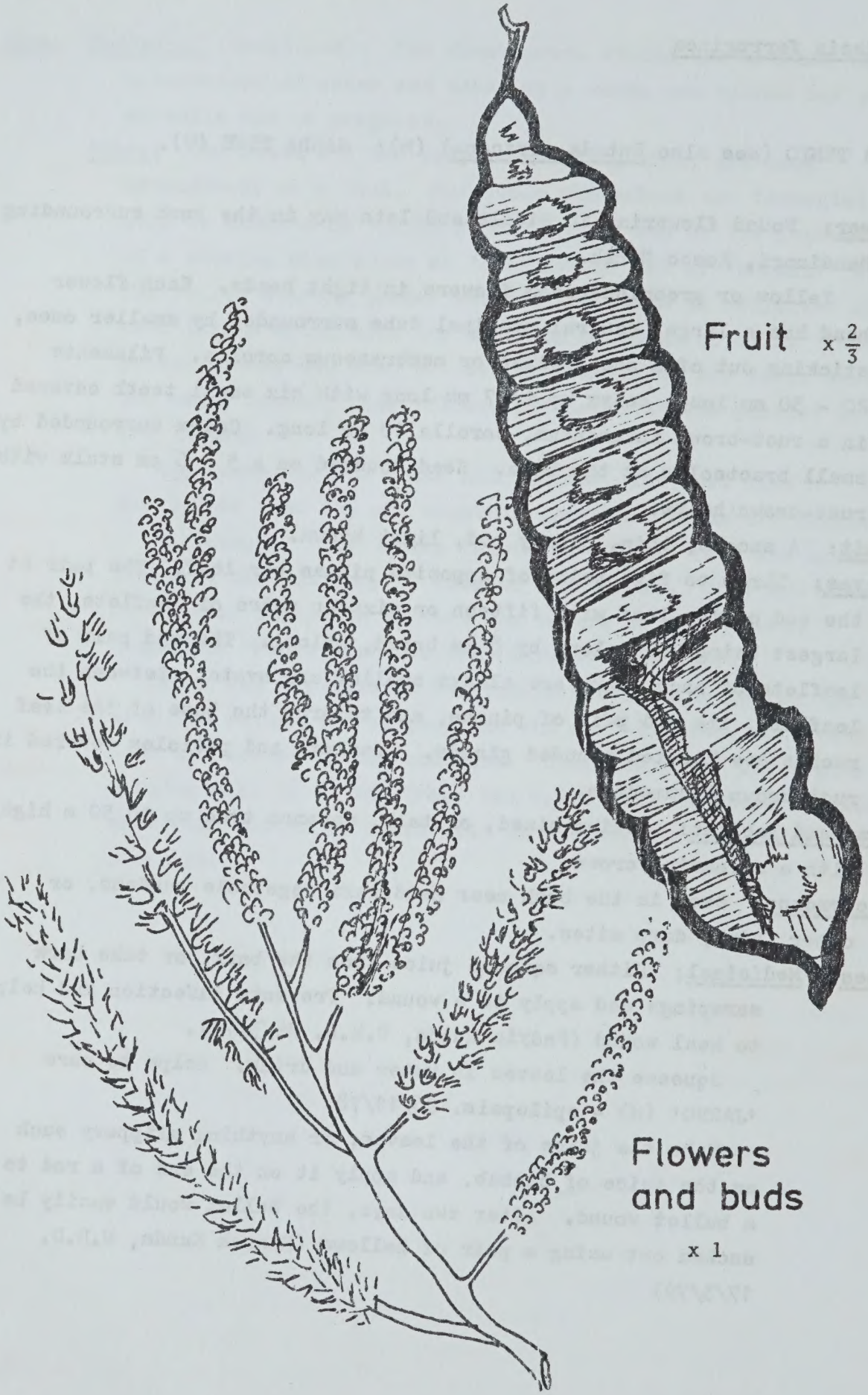
Occurrence: Seen in the bush near Mandinari vegetable gardens, or other fairly damp sites.

Uses: Medicinal; Either squeeze juice from the bark, or take bark scrapings and apply to a wound. Prevents infection and helps to heal wound (Fadyia Kunda, U.R.D. 24/3/79).

Squeeze the leaves in water and drink. Helps to cure 'JARRO' (M) - epilepsis. 26/11/78.

Take the juice of the leaves, or anything slippery such as the juice of baobab, and apply it on the end of a rod to a bullet wound. After two days, the bullet would easily be sucked out using a pair of bellows (Manneh Kunda, U.R.D. 17/3/79)

Entada africana



Entada africana

SAMA NETTO, SAMA TENYO, MARA TENYO (U.R.D.) (M) but see also Albizzia ferruginea: SAMBA TENE (W): NETTEH CHANGOL, BUDAYI, PADE PALI (F): BOULEAGNAOU (J).

Flower: During late March in U.R.D., mid-April in the Fonis and in late-May in the Kombos.

Flower spikes in axillary groups of four to six. Each spike about 10 cm long, with a mass of small florets. The spike flowers from the bottom of the branches upwards. The stamens of the floret are white or cream at first, gradually turning yellow with age. Corolla lobes five, green, 2 mm long.

Fruit: A thin, flattened pod up to 30 cm long by 6 cm broad. When very ripe, the outer dark-brown skin peels back leaving sections of light brown, winged seeds held in place at each end by a woody frame which extends round the perimeter of the pod. The seed sections break up when ripe.

Leaves: The tree comes into leaf usually after, or during, flowering. Five to six pairs of pinnae, twenty to twenty-five pairs of oblong leaflets, each 2 cm long by 6 mm broad with distinct nerves. Rachis slightly hairy, no glands or thorns present.

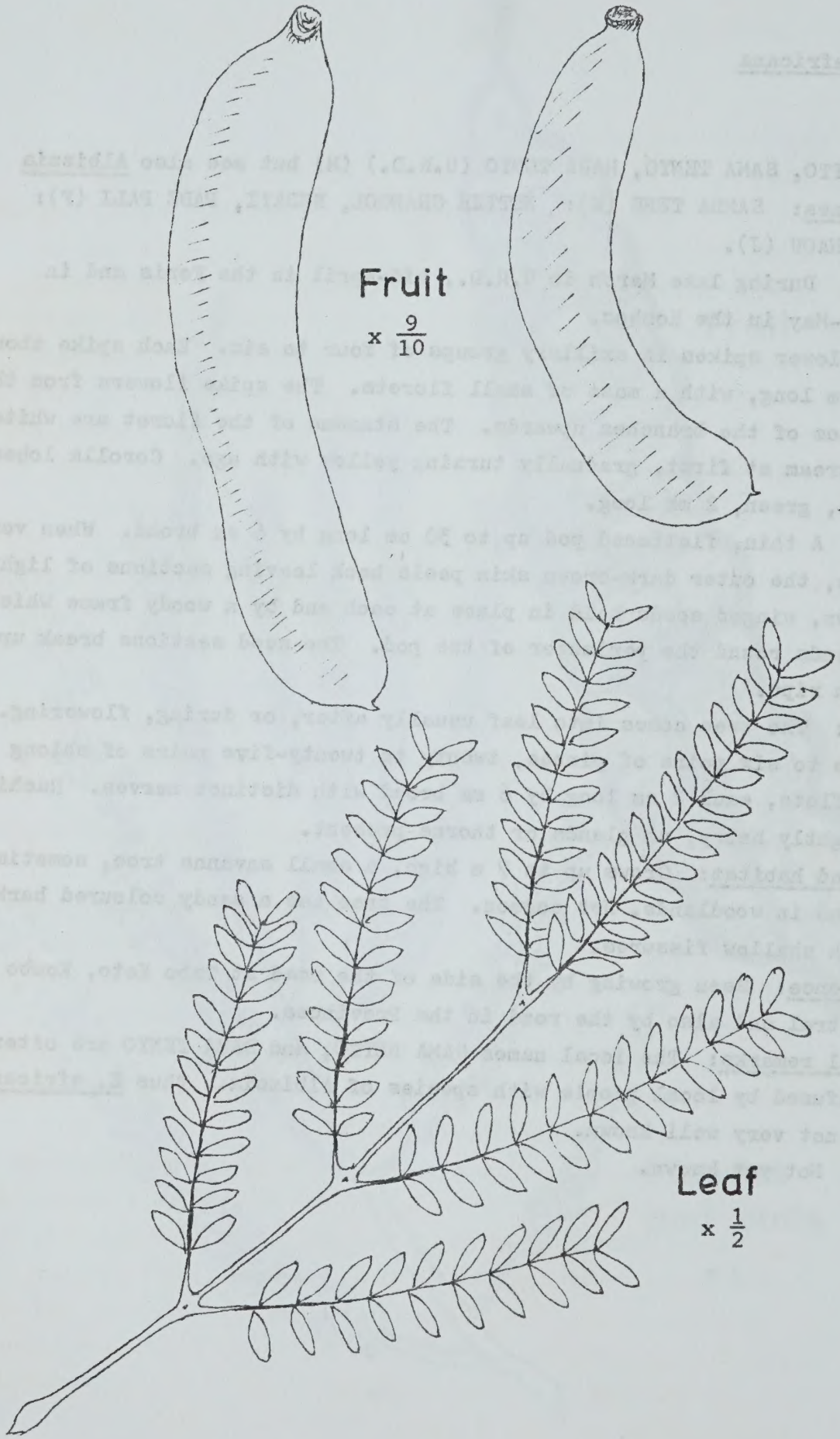
Size and habitat: Grows up to 7 m high, a small savanna tree, sometimes found in woodlands. Not common. The tree has a sandy coloured bark, with shallow fissures.

Occurrence: Seen growing by the side of the road at Tabo Koto, Kombo Central and also by the road in the Provinces.

Special remarks: The local names SAMA NETTO, and SAMA TENYO are often confused by local people with species of Albizzia. Thus E. africana is not very well known.

Uses: Not yet known.

Prosopis africana



Prosopis africana Ironwood Tree

KYEMBO (M): HER (W): KOHI (F): BUSE-SEGNE (J).

Flower: Coming into flower at Abuko Nature Reserve during mid-May. Green-white spikes, 6 - 7 cm long. Each floret 3 - 4 mm long, with a minute calyx and five green petals 3 mm long. Stamens exerted above petals, greenish-yellow in colour. Ovary brown, covered with silky hairs. Florets clustered up the spike.

Fruit: A curved, flattened, thich, woody pod with a dark brown, leathery, shiny skin 14 cm long by 3.3 cm wide. Pod has a pronounced sharp point at the apex and the loose seeds rattle inside when shaken.

Leaves: Three to four pairs of pinnae, with a small nodular gland between each pair. Each pinna having eleven pairs of leaflets, 18 mm long by 7 mm broad, with the largest leaflets near the base and the smallest near the apex. Leaflets roughly elliptical, but asymmetrical about the mid-rib, minutely acuminate. Leaf stalk slightly hairy.

Size and habitat: A medium-sized savanna tree, 10 - 20 m high with fissured, flaky bark.

Occurrence: Widely scattered through the countryside but described specimens from Abuko Nature Reserve. Tree in great demand for the timber.

Special remarks: Timber termite-resistant and fence posts would last up to 15 years.

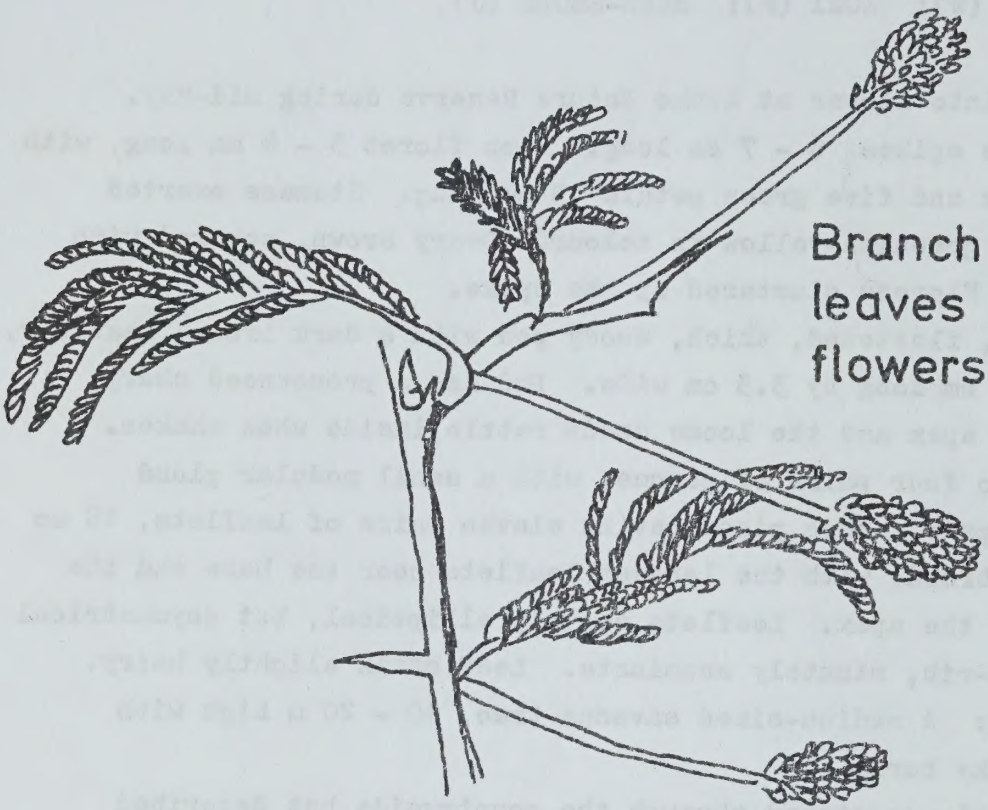
Uses: Medicinal; Bark pounded to a powder and mixed with water, used to wash the mouth for sores. Also mentioned on other occasions. The leaves are boiled and the water taken in to keep gums strong and healthy.

Other; The very hard nature of the wood makes the timber useful for fence posts which will not be easily destroyed by termites and is a good wood for making charcoal.

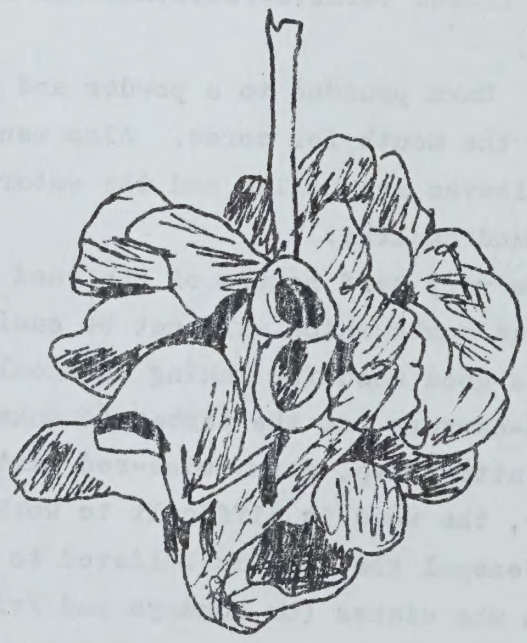
Wood-carvers use the timber to make masks, as the mature wood has an attractive, dark, wine-red tint and takes a polish well. However, the wood is difficult to work with in carpentry.

In Senegal the wood is believed to induce calm and sleep. A witch who wishes (on Mondays and Fridays) to invoke the devil without the knowledge of her sleeping spouse, places a stump or rod of the wood in contact with him in her absence. (Appendix to the 'Flora of West Tropical Africa' page 223).

Dichrostachys glomerata



Branch with leaves and flowers x 1



Last year's fruit x 1

Dichrostachys glomerata The Bottle-Brush Tree

KURULUNGO (M): SINKE (W): BULE or BULE-BETE (Port. Guin. & Fr. Guin.)

Flower: Comes into flower during late April and early May and at other times of the year, but does not last long.

Flowers in pairs of spikes, which occur alternately up the branch. Each flower is a brightly coloured spike 4 cm long. The upper flowers are bi-sexual and yellow, while the lower neuter ones are pink or white tinged with pink at the tips. The flowers hang down on 3 cm stalks like bottle-brushes.

Fruit: A cluster of highly convoluted pods on a woody stalk, dark brown when ripe, 6 - 7 cm in diameter. The fruits form in the early dry season and drop around January or February when new leaf shoots appear.

Leaves: Bi-pinnate, with ten pairs of pinnae. Between each pair of pinnae is a rod-like gland on the upper surface of the rachis. Leaflets minute, 3 - 4 mm long. Both leaflets and rachis covered in short hairs. When stem is cut, leaflets fold up. Bark smooth, light brown, with a prominent axillary spine at the nodes.

Size and habitat: A bush or small tree forming thickets in the savanna.

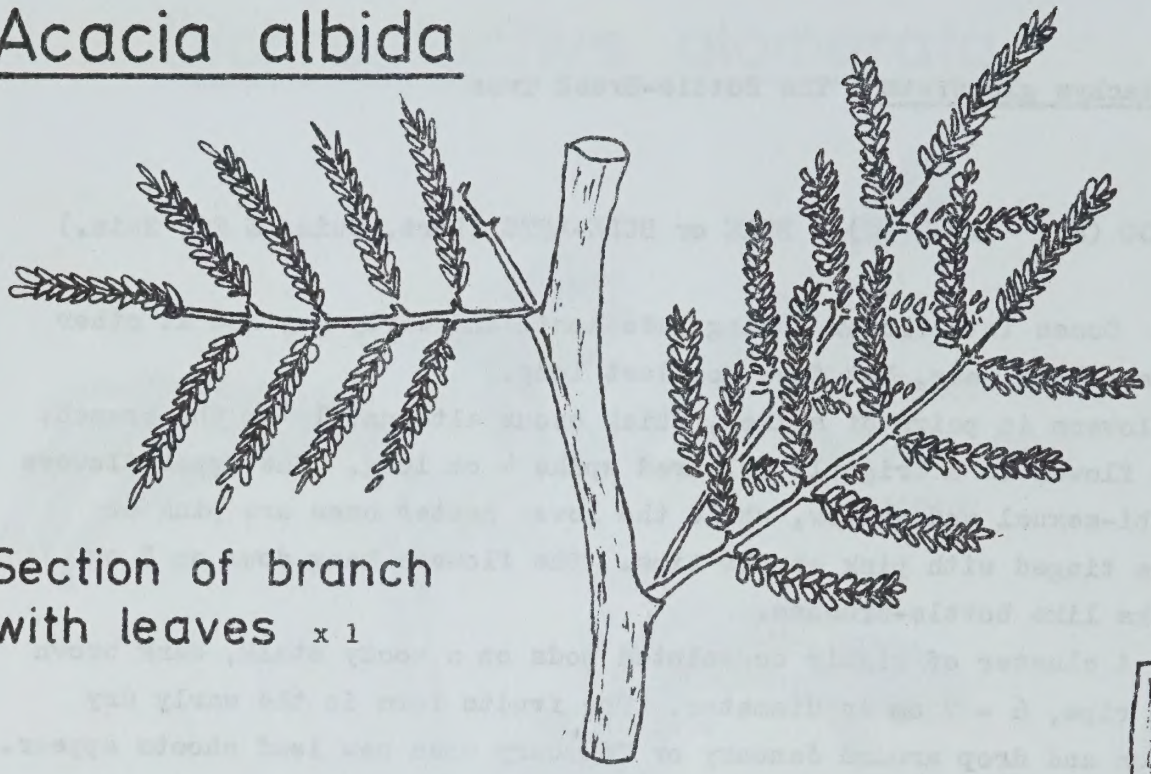
Occurrence: Colonises open land, especially recent farm land. Seen scattered in the bush up and down the country. Found in the Amenity Belt at Kabafita and in the bush behind Bahama Road, Yundum.

Special remarks: Considered a nuisance by farmers who will often build fires round it, since it is difficult to root up and it is very thorny. Flowers distinctive from a distance.

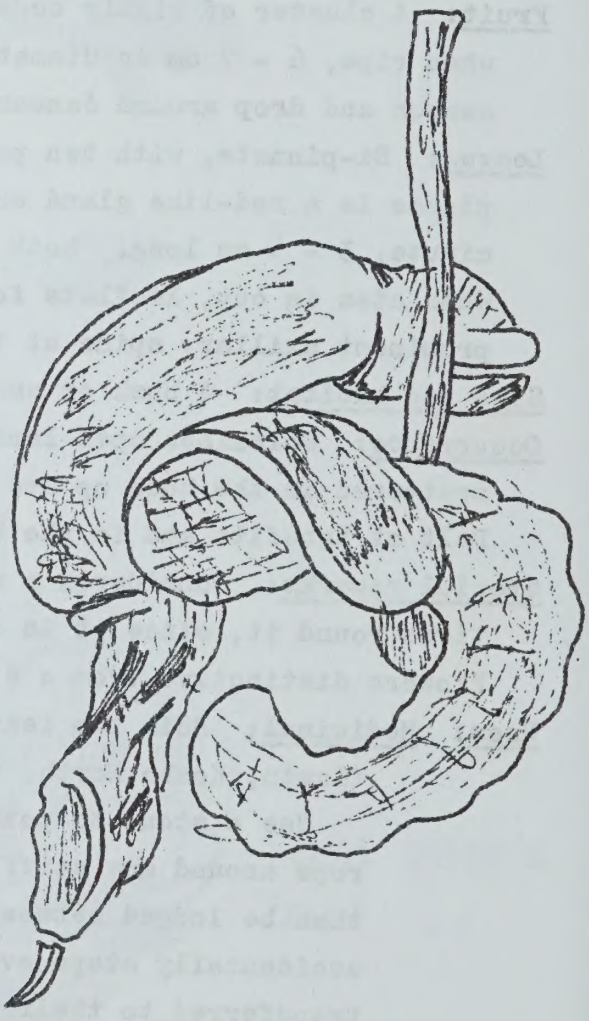
Uses: Medicinal; Boil the leaves and inhale the steam for toothache. (Lamin, Kombo North, 10/11/78).

Use a stone to pound the bark into a rope form and tie the rope around any stiff regions of the body. This stone must then be lodged between the branches of the tree in case anybody accidentally steps over it. The stiffness would then be transferred to their body (Mamputa, U.R.D. 19/3/79)

Acacia albida



Section of branch with leaves x 1



Two entwined fruits x $\frac{2}{3}$

Acacia albida Winter thorn

BARANSANGO (M): KADA (W): CHESKI (F).

Flower: Early part of dry season, January.

Flowers not observed by the author therefore description taken from 'Flora of West Tropical Africa': flowers cream, becoming yellow, in spikes, flower five-part with filaments united into a tube.

Fruit: An orange, contorted pod, seen growing on trees in pairs in February and March. The pair of pods curve in an anti-clockwise direction. The skin of the pods is fairly thick and fibrous and contains dark brown, shiny seeds, 8 mm long.

Leaves: Grey-green foliage, usually nine to ten pairs of pinnae with about fifteen pairs of oblong leaflets, 4 mm long by 2 mm wide. Between each pair of pinnae on the upper surface is a small gland. Mature leaves and rachis slightly hairy. At each node a pair of leaves sits between two outwardly pointing thorns. In young trees the thorns are longer. The young branches are pale in colour, while the bark of the mature tree is light brown and shallowly fissured. Branches zig-zag between the nodes.

Size and habitat: May grow up to 30 m high, but often found as a smaller savanna tree. Tolerates extreme dryness and grows in arid, exposed places. The trees have a slanted, flattened crown.

Occurrence: Tree fairly widespread across the Gambian countryside but is usually locally common. Many trees found in the bush between Yundum village and Crop Protection Unit - Kombo North. Chiefly found on cultivated land and not in natural savanna forests.

Special remarks: Tree leafless during the rainy season. From a distance one can tell the prominent wind direction, since the tree's foliage is usually lying at a diagonal on one side.

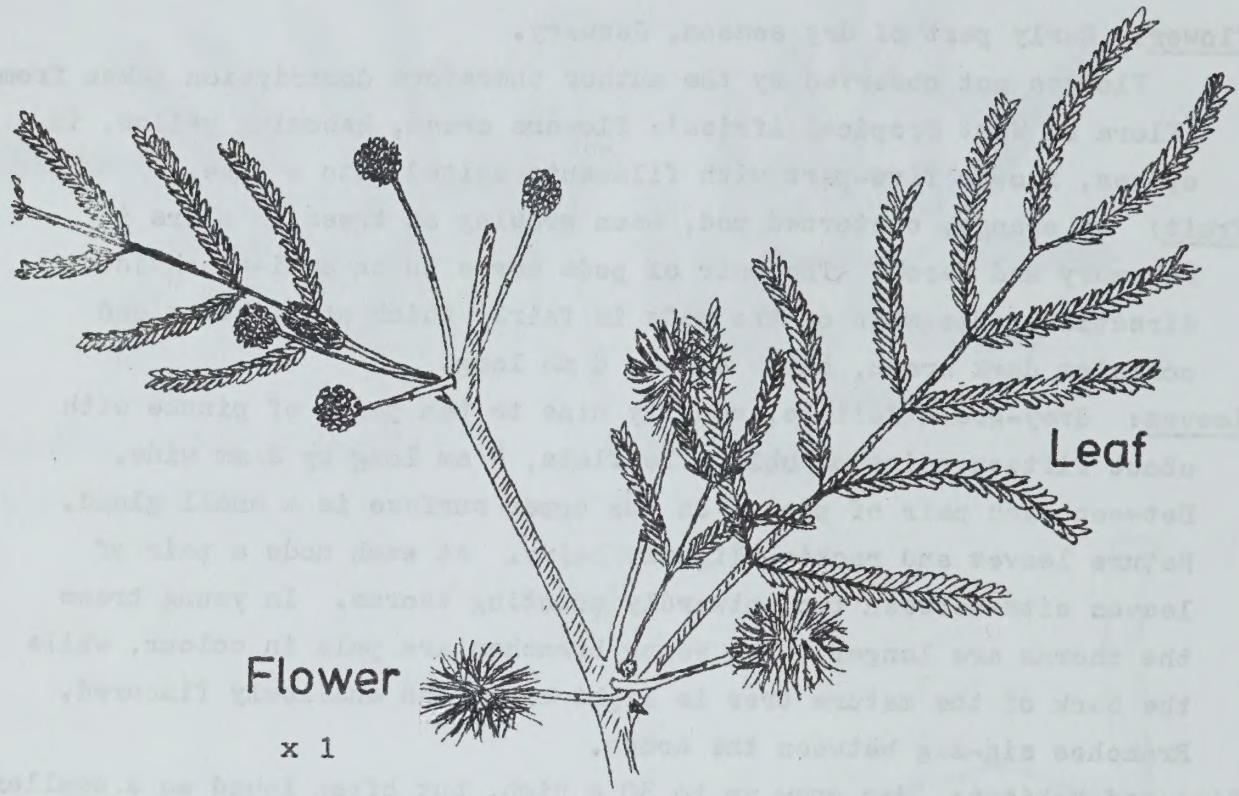
Uses: Medicinal; Pound the bark of the tree into a powder, mix with water and wash the mouth to get rid of toothache. Take the roots and split into pieces, soak in water and drink every morning. Gives strength to old people.

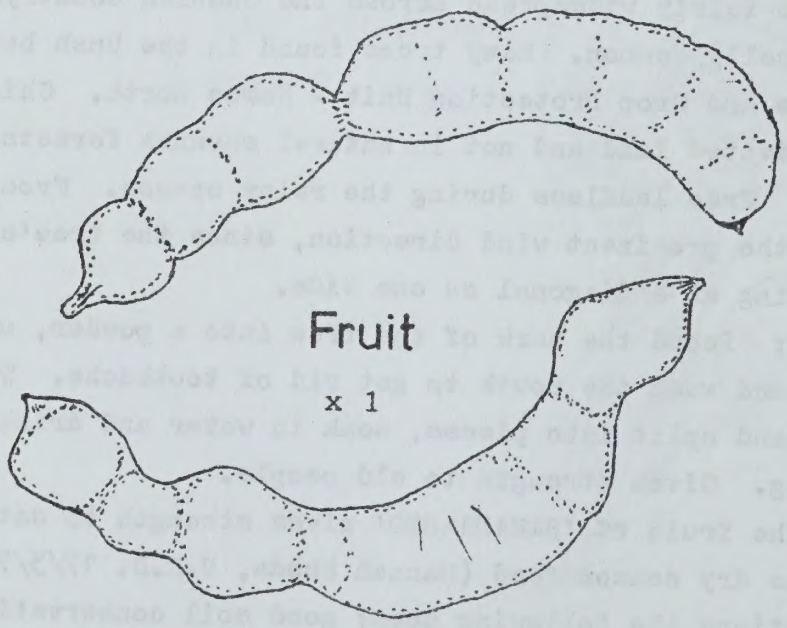
Other; The fruit of 'BARANSANGO' gives strength to cattle when used as dry season feed (Manneh Kunda, U.R.D. 17/3/79)

F.R.Weber mentions the following uses: good soil conservation tree (higher crop yields under tree); pods good cattle feed; branches useful for fencing; leaves used for animal feed; wood used for carving; bark contains tannins for skin curing. See also FAO Forestry Development Paper Number 19: 'Tree planting practices in African Savannas' 1974 page 42 - 43.

Local people use the dropping of BARANSANGO'S leaves as a sign of the coming rains.

Acacia scorpioides





Acacia scorpioides Sunt or Babul Tree

BANO (M): GONIAKE, NEBNEB (also covers other Acacia species) (W): GAUDI (F).

Flower: Not seen by the author, but probably in February or March. Old flowers found on the ground below tree.

Small, yellow, globose flower about 1 cm broad on a short stalk.

Fruit: Mature and immature fruit seen on the tree in late May in the Kombos. A curved pod up to 12 cm long by 1.5 cm broad (measured across a seed). Pod expanded at each seed, making the pod sinuous in outline, covered with a grey coating and splitting open round the perimeter. A dark red, crystalline substance can be seen when the pod is broken open. Pods occur in pendant clusters near the ends of the branches.

Leaves: Foliage very small, two leaves at each node. Usually about six pairs of pinnae per leaf. Numbers of leaflets variable, but usually ten to thirty pairs per pinna. Each leaflet minute, 4 mm long by 1 mm wide, oblong, but widest near apex. At the node is a pair of outwardly pointing thorns, slightly recurved at the tip. The thorns seem to be larger in young trees, like needles. Bark dark brown or black and deeply fissured.

Size and habitat: A medium or large savanna tree up to 17 m high, with a rounded or slanting crown.

Occurrence: Specimens found in the bush immediately behind Lamin village, Kombo North.

Special remarks: The naming of this plant and related species has become rather confused. F.R.Weber, 'Reforestation in Arid Lands' names it as A. scorpioides var. adstringens while in 'Flora of West Tropical Africa' it is named as A. nilotica var. adansonii.

Uses: Medicinal; A dilute solution of the soaked bark is given to children as a mouthwash. (Arafang Malang Drammeh, Lamin, Kombo North, 24/5/79).

In Senegal, the water of the boiled bark is a common remedy for dysentery (Appendix 'Flora' page 204).

Other: The pods and bark are used to dye skins but no details given (A.M.Drammeh, Lamin, 24/5/79).

The pods are known as Sunt or Gambia Pods in the West and are used in tanning and dyeing. The pods of A. scorpioides are preferred over other species of Acacia for dyeing in Senegal (Appendix 'Flora' page 204). See also FAO Forestry Development Paper Number 19, 1974.

Acacia macrostachya

SINOKO; NOKO, OUONCOLO (U.R.D.) (M): DEDD (W): BULE-PODI, PATARLAHI, CHIDI (F).

Flower: In June and July (near Sapu M.I.D.) and possibly at other times of the year.

Seen, but not described by the author in detail. Description taken from 'Flora of West Tropical Africa': cream-coloured spikes with long, weak hairs on the flower stalk. Calyx smooth.

Fruit: Slightly hairy, reddish, flat pod, pointed at both ends, 7 - 12 cm long by 1.5 - 2 cm wide. Persistant through the rains.

Leaves: Bi-pinnate with twenty to thirty-five pairs of pinnae bearing thirty-five to fifty pairs of small leaflets. Leaf rachis with a large, flat, elliptic gland towards the base, scarcely raised above the surface. Branchlets rust coloured with downcurved prickles between the nodes.

Size and habitat: A small tree or scrambling shrub up to 7 m high on dry savanna, found especially on laterite hills.

Occurrence: Seen once near Sapu, M.I.D.

Uses: Medicinal; Take the inner bark, soak or boil in water and swill this water round the mouth to get rid of toothache. (Busera, Kombo Central, November 78).

Boil the bark and drink the water to get rid of worms that affect the bladder (Sutukonding U.R.D. 24/3/78).

Soak the bark in water, add milk and drink to cure stomach-ache (Mamputa, U.R.D. 19/3/79).

Take the roots, split into pieces, put into a bottle and add water and drink for stomach sickness (Lamin, Kombo North, 11/10/78).

Scrape the thorns off the leaves, pound the leaves and add water. Rub the mixture onto the body to help cure internal swellings.

Papilionaceae

This is the third of the legume families and is the largest of them, so that 'Flora of West Tropical Africa' divides the family into nine tribes. But the whole family is typified by a five-part flower. The petals are always arranged in the same way, (though size and shape may vary) and are given special names. The upper, or adaxial, petal forms the standard or vexillum; the two lateral ones, more or less parallel to each other, form the wings or alai; while the lower two petals are joined along their edges to form the keel or carina.

Thirty genera out of the eighty listed in the 'Flora', have been observed to occur in The Gambia. But many of these are annual herbs, not widely known by local people and hence are not used much. Few genera in fact, are dealt with in detail in the following text. However, a medium savanna tree Pterocarpus erinaceus, Tribe II - Dalbergieae, is well known and a common sight in the bush, while a small tree or shrub, Erythrina senegalensis, Tribe VII - Phaseoleae, is a common sight in compounds. Members of this latter Tribe such as Phaseolus and Vigna are cultivated in village gardens for eating or for sale in markets. Lonchocarpus, Tribe II - Dalbergieae, is a plant from which indigo dye is obtained. The dried plant material is now mostly imported from Nigeria and Sierra Leone, but some is still collected from the bush up river in The Gambia. Indigo dye gives rise to an important tie-dye industry in The Gambia.

The agricultural economy of The Gambia is very largely dependant upon the successful crops of a member of Tribe IX - Hedysareae, that being Arachis hypogaea. The export of groundnuts provides the major revenue for The Gambia.

There are also plants in the family which produce poisonous seeds, such as Abrus precatorius, Tribe VIII - Vicieae, and those of Erythrina senegalensis.

The following genera are known to occur in The Gambia:

Tribe I	- Sophoreae	Afrormosia
Tribe II	- Dalbergieae	Dalbergia
		Pterocarpus
		Andira
		Drepanocarpus
		Lonchocarpus
Tribe III	- Galegeae	Tephrosia
		Sesbania
		Indigofera
Tribe IV	- Genisteae	Rothia
		Crotalaria
Tribe V	- Loteae	Lotus
Tribe VII	- Phaseoleae	Rhynchosia
		Eriosema
		Moghania
		Clitoria
		Erythrina
		Phaseolus
		Vigna
		Psophocarpus
		Canavalia
Tribe VIII	- Vicieae	Abrus
Tribe IX	- Hedysareae	Stylosanthes
		Zornia
		Arachis
		Aeschynomene
		Desmodium
		Alysicarpus
		Uraria

Abrus praecatorius The Jequirity Bean, or Indian Liquorice.

FANTO (M): SEBU TUBAB (W).

Flower: Only the dried fruit seen by the author, but probably flowers during the early dry season.

Description taken from 'Flora of West Tropical Africa' as follows: pinkish-yellow flowers in short, pedunculate racemes, very small bracteoles at base of calyx. Stamens nine, joined in a sheath.

Fruit: A thick pod, light brown, smooth, up to 10 - 12 cm long with five or six plum-red coloured beans each being 3 cm long by 2 cm broad, generally oval with a flattened rim. As well as the place of attachment, the beans have a darkish spot at the widest end of the bean. Clustered fruits burst open when ripe.

Leaves: Pinnate leaves, the rachis ending in a bristle. Leaflets oblong, 6 - 15 mm long by 4 - 8 mm broad, thinly hairy and rounded or somewhat pointed at the apex.

Size and habitat: Slender, woody, twining shrub.

Occurrence: A vine which is chiefly found in abandoned fields, thickets and fence rows of villages. Sometimes planted at the beginning of the rains.

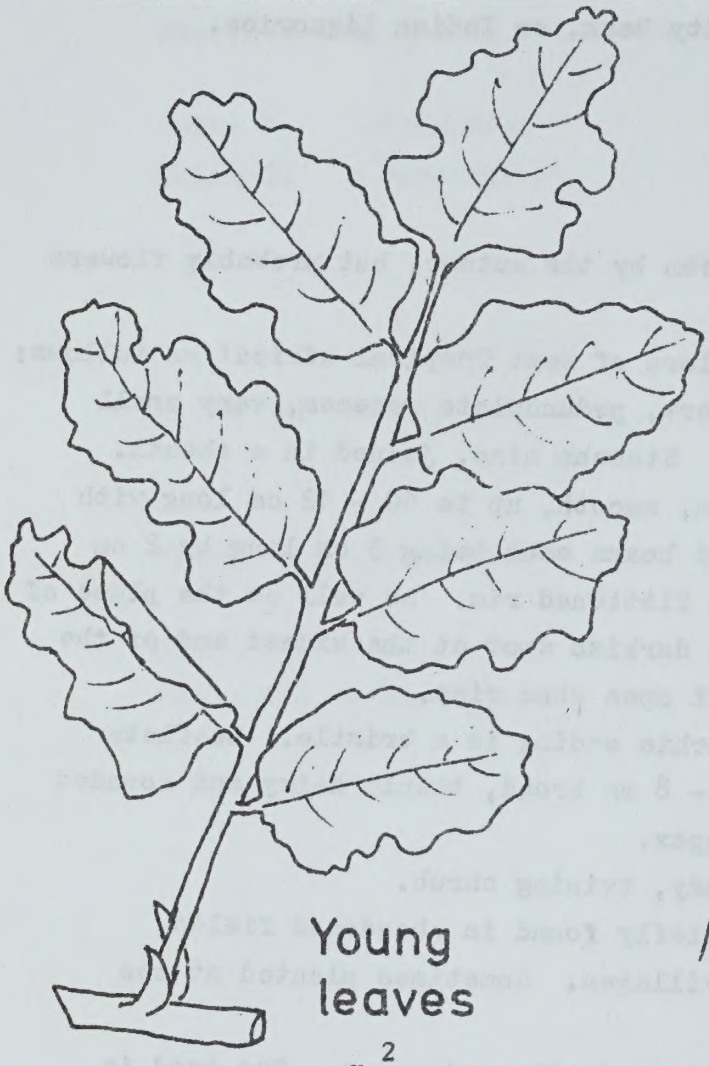
Special remarks: The red seeds are deadly poisonous. One seed is enough to kill a person, It is a blood poison and produces an effect similar to that of snake venom.

Uses: The young leaves and shoots are sometimes chewed for their liquorice flavour and the beans are often sold to tourists. Also known as Rosary Pea or Jumbie Bean ('Edible leaves of the Tropics' by Martin and Ruberte).

Folk Lore: 1) The beans are used in jujus to give protection against spirits or devils which fly through the air like arrows to pierce the skin, giving rise to smelly sores of the skin ! (Mansajang Kunda, U.R.D.)

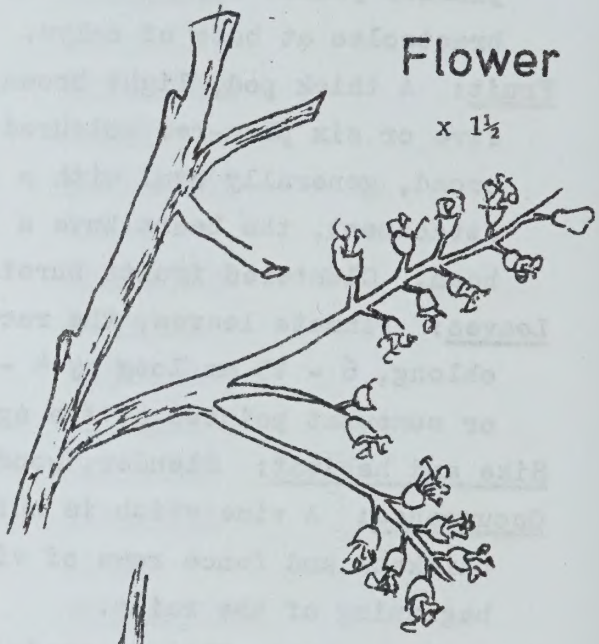
2) The beans are also buried on the site of a proposed building. If the bean has been removed from that place overnight, then one must look for another site since a devil would still be occupying that one.

Pterocarpus erinaceus



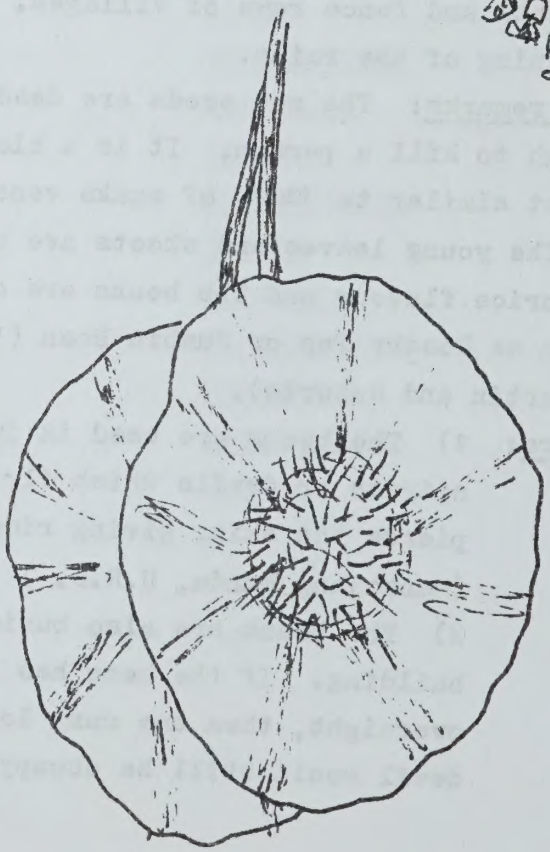
Young leaves

x $\frac{2}{3}$



Flower

x 1½



Fruit

x 1½

Pterocarpus erinaceus Senegal Rosewood

KENO (M): YIRH, VEN (W): BANI, BANIHI, BALEH (F).

Flower: Mostly during the first two weeks of February, but odd specimens in the Kombos are found flowering later.

Flowers lemon-yellow with a fragrant scent. Borne on lax, alternately branched panicles when tree leafless. Florets have a 6 mm long, flask shaped, softly hairy calyx with short lobes. Petals bright yellow, stamens in a sheath joined near the base. Stalk 0.5 mm long. Florets have a fragrant scent, but drop off easily.

Fruit: A flattened, orbicular, wing or samara with erect bristles covering the centre of the fruit, 4 - 7 cm diameter. Fruit hang in clusters and ripen in the Fonis in March and April while the tree is still leafless.

Leaves: Ten to fifteen pairs of large, alternate leaflets, 6 - 11 cm long by 3 - 6 cm broad, somewhat hairy on the underside. Stipules present.

Size and habitat: A savanna tree up to 35 m high and often having a crooked bole with black or charred, fissured bark.

Occurrence: Specimens found in Salagi Forest Park, Kombo North and in the bush near Mandinari, Kombo North. A very widespread tree in The Gambia.

Special remarks: Slash of the bark yields a red sap.

Uses: Medicinal; For cure of serious body sickness the bark taken from East, West, South and North plus that of 'KIBERO' is soaked in water, washed and taken in three times with cupped hands.

Chew the bark and swallow the juice for serious stomach ache and constipation (Sutukonding U.R.D. 24/3/79).

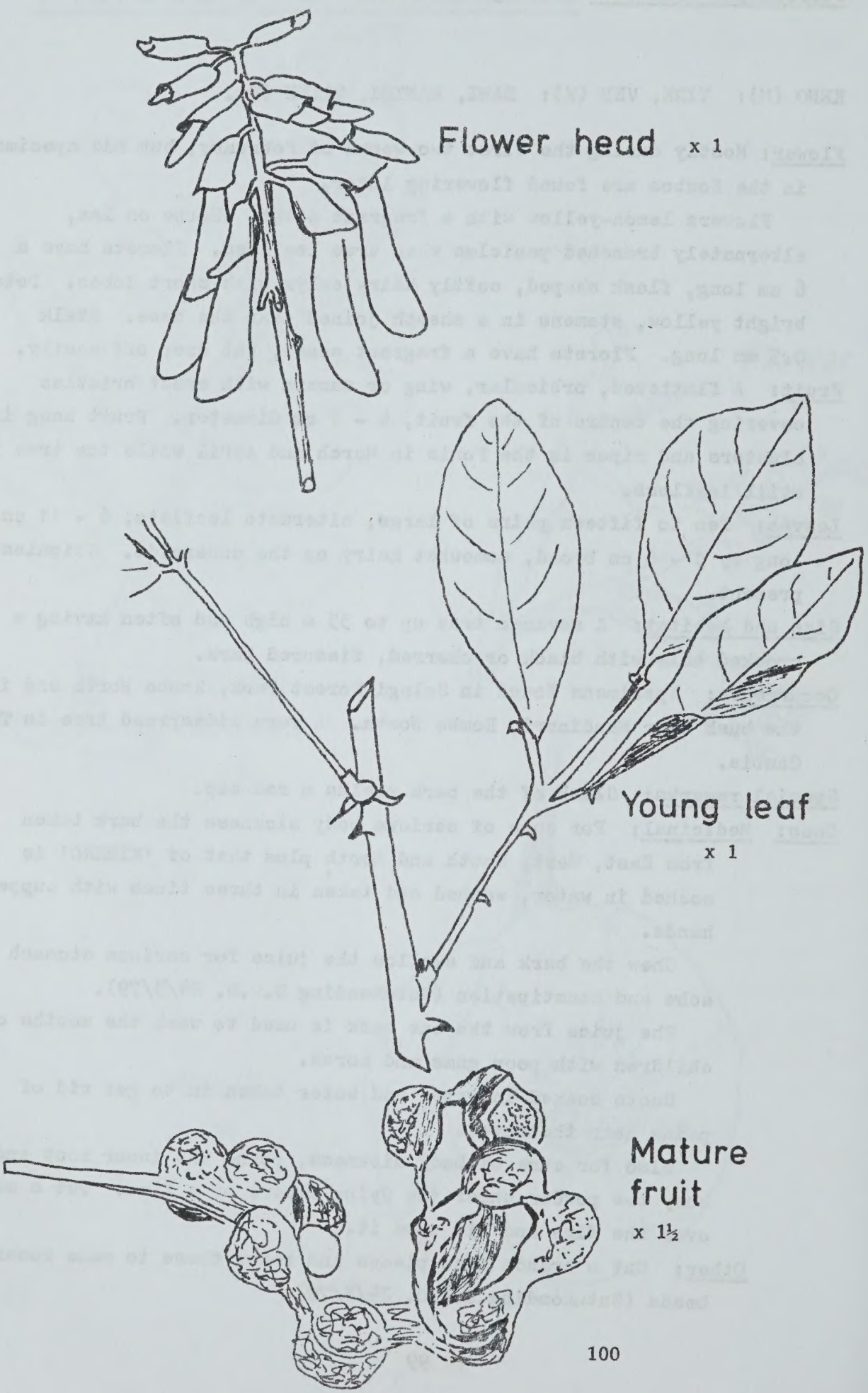
The juice from the cut bark is used to wash the mouths of children with poor gums and sores.

Roots soaked in water and water taken in to get rid of pains near the navel.

Also for cure of body sickness, pound the inner root and bury the powder under the dying embers of a fire. Put a mat over the fire and lie upon it.

Other; Cut a branch into pieces and roast these to make rosary beads (Sutukonding U.R.D. 24/3/79).

Erythrina senegalensis



Erythrina senegalensis The Coral Flower Tree

NDOLINGO (M): BOTI-JAN (lit. Snake's eye) (W): BOTIOLA (F): FUSENTE FARIAK (J).

Flower: A very prolonged flowering period all through the dry season.

Scarlet or red flowers, in 15 or 16 cm long spikes. The florets occur in groups of three whorled up the spike. Each group is subtended by a trifoliate leaf which develops after the flowers have faded. Florets 4 - 5 cm long, typical pea-type flower. The standard, emerging from the sheath-like red calyx, and enveloping the rest of the flower. The much smaller wings and whitish keel wrapped round the base of the stamens. Ten pink stamens of varying heights join in a sheath around the lower part of the ovary, except for one which lies behind the ovary. The florets drop easily.

Fruit: A contorted, greenish-brown, much curled, beaked pod. The pod is thin and fibrous but swells where each seed develops. When ripe, the pod splits open on the tree, revealing a bright red, shiny seed attached by a hinge and a spongy, white inner layer inside which the seed develops.

Leaves: Made up of three leaflets, two laterals and a much larger terminal one. Largest terminal leaflets 9.5 cm long by 4 cm broad, lanceolate, rounded at apex, and cordate at base. Leaflet bases thickened with two small glands on the upper surface, and a recurved thorn beneath. Leaf petiole extended beyond those of the lateral leaflets.

Size and habitat: A small savanna tree, about 3 - 5 m high, with a brown, corky bark and stout, recurved prickles, but can grow into a much larger tree.

Occurrence: Often found in compounds in most villages, but also as an occasional savanna tree.

Special remarks: A picture of the flower appears on the 50b stamp in the Gambian flower series.

The seeds are often found covered in white, scaly insects.

Uses: Medicinal; Squeeze and crush the leaves and apply the juice on to wounds for two or three days in succession to heal cuts.

Use the pounded root in the same way, or mix it with palm oil and apply to the wound (26/11/78).

Other: The red seeds, though poisonous, are used by children in counting games.

Stylosanthes mucronata

NBONO (M): DAMEL (W).

Flower: During the rains and early dry season. Not seen by the author description from 'Flora of West Tropical Africa': small yellow flowers, in a congested infloresence. Flowers enclosed in several bracts, calyx tube resembling a stalk.

Fruit: Fruit a spike about 2 cm long, both segments of fruit hairy, with an inwardly coiled beak.

Leaves: Leaflets three, elliptic or narrowly elliptic, very acute at apex, 10 - 18 mm long by about 6 mm broad, short hairs beneath. Stipules present forming a sheath.

Size and habitat: A perennial, woody herb, 0.3 - 1 m high, found on poor soils.

Uses: Medicinal; Boil with water and add sugar and drink. Helps to cure chest pains.

Drink the water of the boiled leaves to clean stomach and bladder, to add blood and cure chest troubles (Lamin, Kombo North, 11/10/78).

An infusion of the plant is taken internally for colds etc (Appendix, 'Flora of West Tropical Africa' page 262).

Desmodium velutinum

NAKA-BURAYO (M)

Flower: During late rainy season.

Seen, but not described in detail, by the author. Flower dense, narrow panicle of purple-blue florets. Calyx teeth five, the upper two joined. Long, thin bracts present.

Fruit: Clusters of flattened pods on a feather shaped inflorescence. Each pod is a string of bristly seeds, usually four in number, 14 or 15 mm long. Each seed is 4 mm long and is covered with hairs. The persistant dried fruits were found behind Mandinari village on 17/5/79.

Leaves: Simple, entire, ovate or rhomboid, rounded at the apex, up to 15 cm long and 8 cm broad, hairy on upper and lower surfaces.

Size and habitat: A half-woody, erect under-shrub, 1 to 2 m high, with persistant fruit. Found under trees in savanna woodland.

Occurrence: In the bush south of Abuko Nature Reserve, in Kabafita Forest and beside the vegetable gardens on the embankment behind Mandinari.

Special remarks: The seeds or burrs cling to people's clothing.

Uses: Medicinal; The leaves stick easily to clothing and body hair and are used as a bush bandage on cuts to stop bleeding.

Other: The boiled water from the roots is used as a powerful juju against knives. After taking in the water, one symptom of having this power of the juju, is a constant need to scratch.

Moraceae

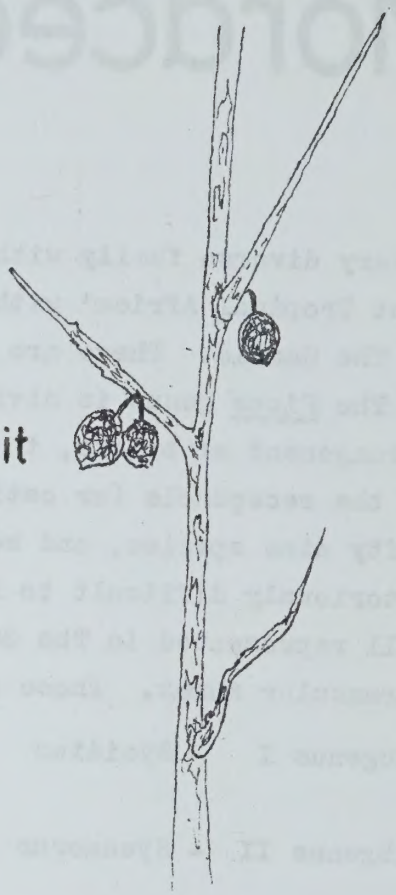
A very diverse family with twelve genera mentioned in the 'Flora of West Tropical Africa' with Chlorophora, Antiaris and Ficus occurring in The Gambia. There are also introduced genera such as Artocarpus.

The Ficus genus is divided into four sub-genera according to the arrangement of bracts, the male flowers, the receptacles and the mouth of the receptacle (or ostiole). In the sub-genera there is a total of fifty nine species, and several imperfectly-known ones. The figs are notoriously difficult to identify, but they are a large group and are well represented in The Gambia, being known by a whole host of vernacular names. Those recorded are as follows:

Subgenus I - Sycidium	Ficus capreifolia
	Ficus exasperata
Subgenus II - Sycomorus	Ficus capensis
	Ficus gnaphalocarpa
Subgenus III - Urostigma	Ficus ingens var. ingens
Subgenus IV - Bibracteatae	Ficus glumosa var. glumosa
	Ficus vogelii
	Ficus platyphylla
	Ficus iteophylla

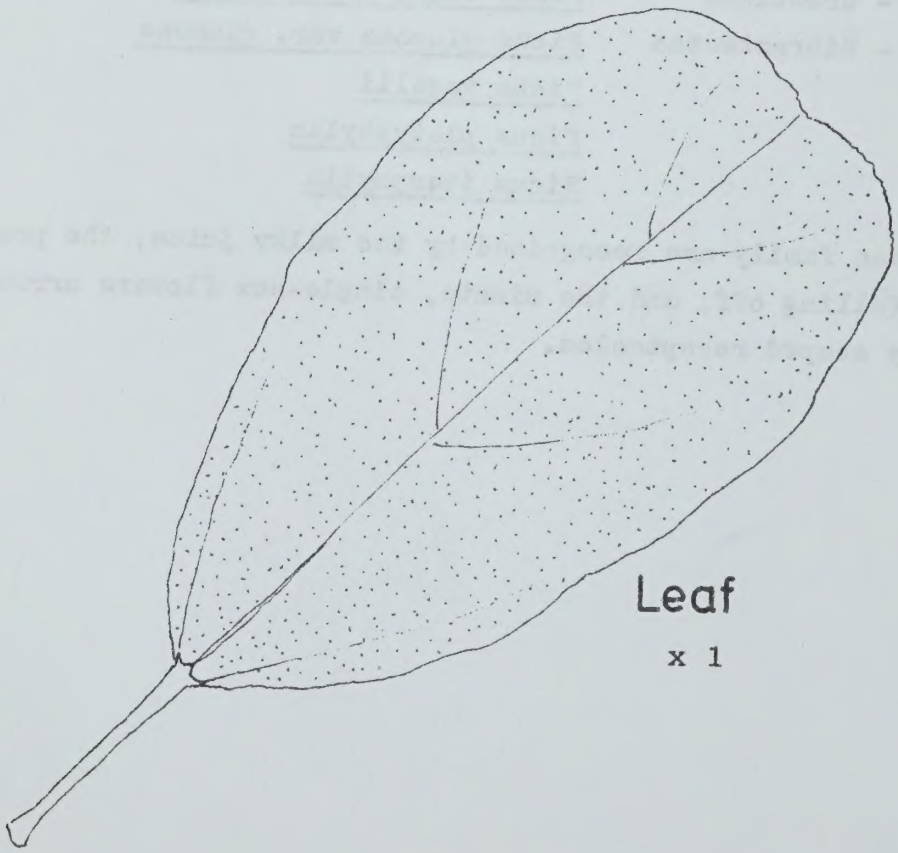
The Moraceae family are recognised by the milky juice, the prominent stipules on falling off, and the minute, single-sex flowers arranged on the variously shaped receptacles.

Ficus exasperata



Last year's fruit

x 1



Leaf

x 1

Ficus exasperata White Fig Tree

SOTO-NGANYA (M): NYADJEH (F).

Description of the figs: Last year's figs were found clustered on the main stem and axillary branches, 1 cm diameter with a thin, short stalk. Surface scabrid. The figs are red when ripe, but are not edible.

Leaves: Mature leaves widely spaced and alternate up the stem with new shoots developing in the axils. Leaves ovate to obovate-elliptic, 13 cm long by 8.5 cm broad, rounded at the base, and shortly acute at the apex. Both surfaces of the leaves are scabrid, margin irregularly wavy, three to four pairs of branching nerves and the petiole up to 4 cm long. Brown stipules present on very young shoots but soon falling off.

Size and habitat: A deciduous, savanna tree up to 33 m high, with smooth, grey bark and a viscous sap which is not milky.

Occurrence: Widespread in The Gambia, a specimen found in a field behind Lamin village.

Uses: Medicinal; Boil the leaves and the bark in water, drink and wash with the water to get rid of 'FONYO' (M) (Fadyia Kunda, U.R.D. 24/3/79).

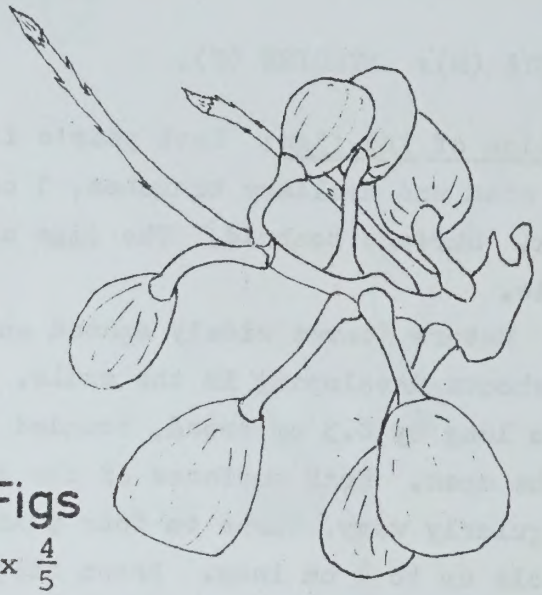
Take the leaves and boil them in a locally made pot. Stoop over the pot and cover the head with a cloth and inhale the steam. Cures chest complaints (Sutukonding U.R.D. 24/3/79).

If a cow gives birth to a calf where the embryo sac does not come out, boil the bark and give the water to the cow to drink to remedy this (Mansajang Kunda, U.R.D. 16/3/79).

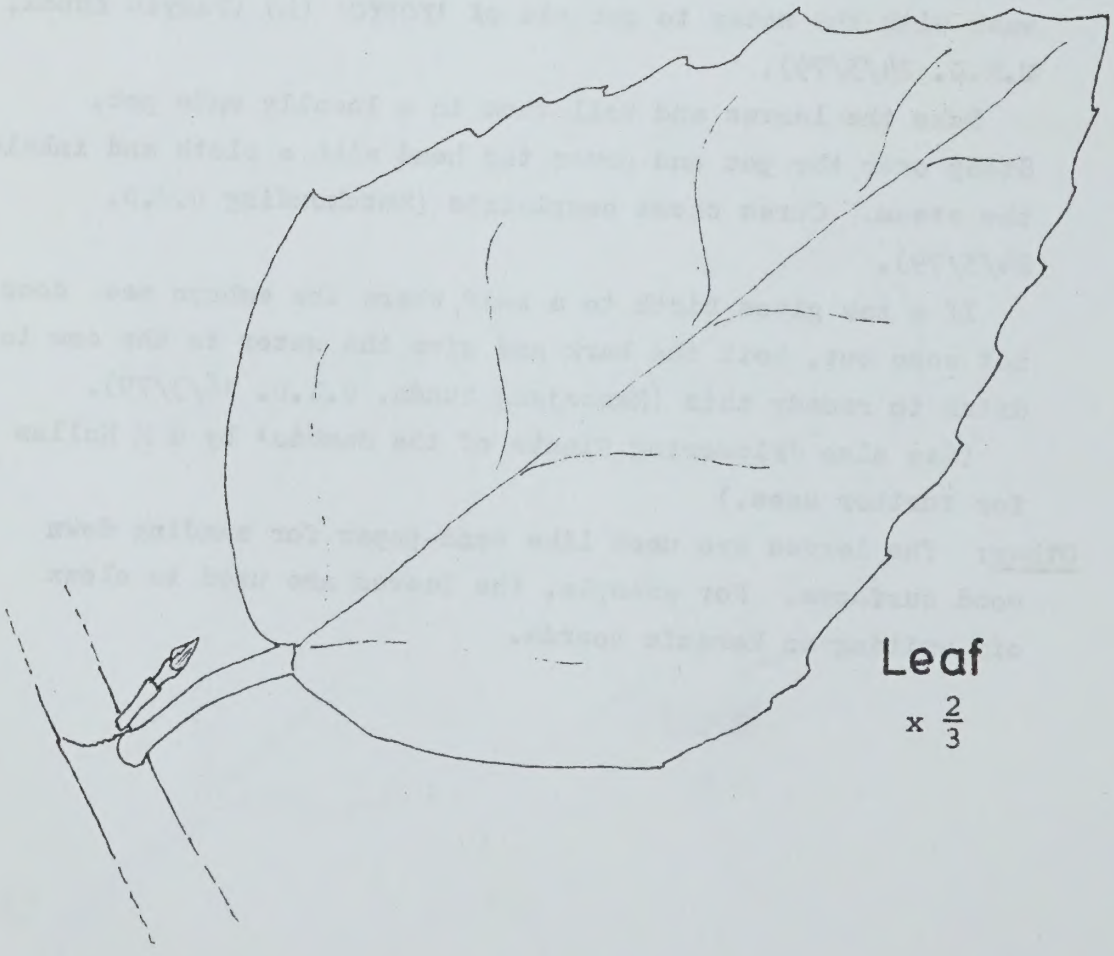
(See also 'Flowering Plants of the Gambia' by G M Hallam for further uses.)

Other: The leaves are used like sand-paper for sanding down wood surfaces. For example, the leaves are used to clean off writing on Koranic boards.

Ficus capensis



Figs
x $\frac{4}{5}$



Leaf
x $\frac{2}{3}$

Ficus capensis

SOTO-KURU (lit: the Kola fig) (M): SOTO-HAJANNA (lit: Fig of Heaven) (W): IBERIMIRIM (F): TURO (Serahuli).

Description of the figs: Immature figs collected in July. Borne in clusters with 2 cm peduncle on woody branchlets growing out of the trunk of the tree. Figs smooth skinned, somewhat conical, 2.5 cm long.

Leaves: Alternate, thick leaves, ovate or ovate-elliptic, 20 cm long by 13 cm broad, irregularly toothed margin, smooth on both surfaces with five prominent pairs of white nerves and a tough, flexible, 5 cm petiole. Smooth stems with stipule scars. Leaf buds with fine, silky hairs.

Size and habitat: A small savanna tree scattered over the country-side.

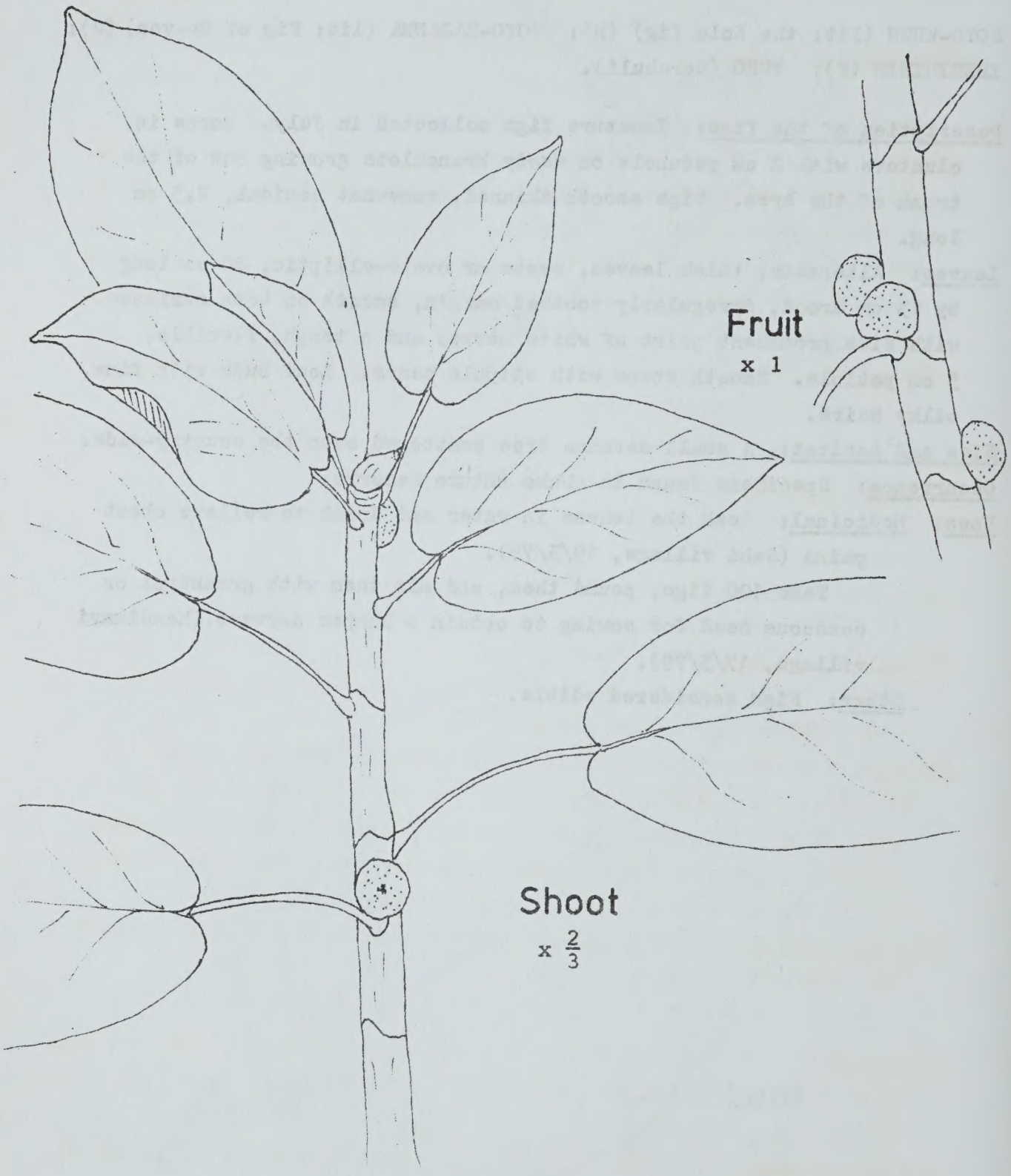
Occurrence: Specimens found in Abuko Nature Reserve.

Uses: Medicinal; Soak the leaves in water and drink to relieve chest pains (Sabi village, 19/3/79).

Take 100 figs, pound them, and mix them with groundnut or couscous seed for sowing to obtain a bumper harvest.(Mandinari village, 17/5/79).

Other: Figs considered edible.

Ficus vogelii



Ficus vogelii

KOBI-JONGO (M): DOB (W): BUPOKAPOKA (J).

Description of figs: Sessile, growing directly on the branches in the axils of leaves, green to yellow, about 1 - 1.2 cm diameter and covered with silky hairs.

Leaves: Leaves thick, spaced out alternately down the stem, obovate, oblong-oblanceolate or oblong-elliptic, shallowly cordate at base, obtusely acuminate, 9 - 35 cm long by 4 - 16 cm broad. Length of petiole varies, but up to 11 cm long with a brown, scaly indumentum, four to five pairs of prominent nerves. Leaves with a thick, waxy, upper surface.

Size and habitat: A medium or tall tree, 7 - 20 m high, with grey coloured bark, of moist places and stream-side vegetation.

* * *

Ficus platyphylla

KOBI-FORO (M): BAP, MBADAT (W).

Description of figs: Not seen by the author, but described in the 'Flora of West Tropical Africa' as 1 - 2 cm diameter, smooth or hairy, often tinged with pink.

Leaves: The leaves are whorled at the ends of the branches, broadly elliptic, obovate or ovate, deeply cordate at base and rounded at apex, 12 - 40 cm long by 7 - 28 cm broad with an undulate margin. Petioles up to 11 cm long, smooth and flexible. Eight to thirteen lateral nerves on each side of the mid-rib.

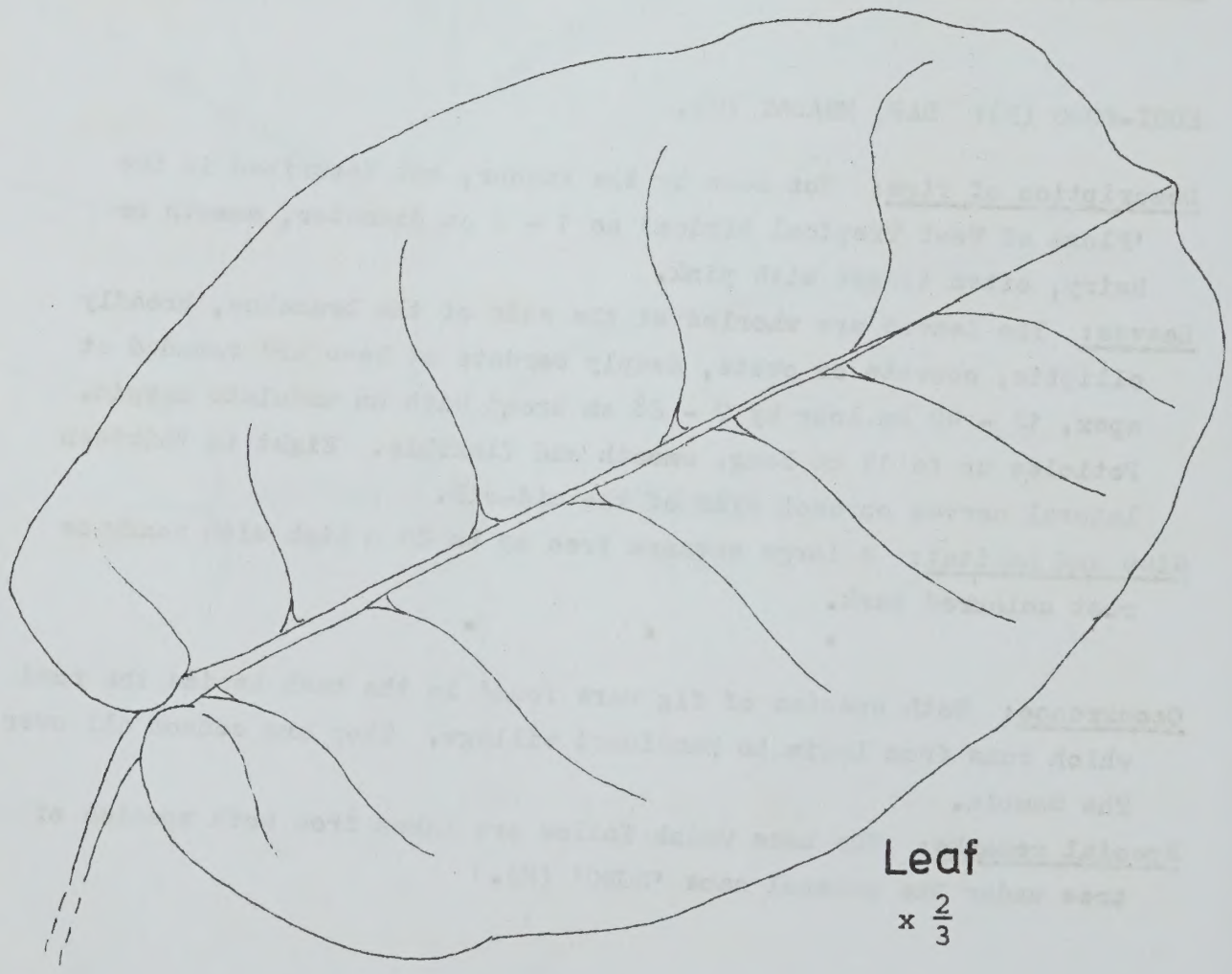
Size and habitat: A large savanna tree up to 20 m high with sandy or rust coloured bark.

* * *

Occurrence: Both species of fig were found in the bush beside the road which runs from Lamin to Mandinari village. They are common all over The Gambia.

Special remarks: The uses which follow are taken from both species of tree under the general name 'KOBO' (M).

Ficus platyphylla



Leaf
x $\frac{2}{3}$

Uses: Medicinal; Boil the leaves and the bark and give the water to pregnant women to lessen labour pains (Fadyia Kunda, U.R.D. 24/3/79).

The water of the boiled bark relieves serious stomach pain.

The juice of the bark, when rubbed on the skin, helps to get rid of 'KURUMAJO' (M) translated as 'a disease with symptoms similar to those of smallpox'.

In Senegal and Guinea the bark of F. vogelii is boiled and the water given for stomach troubles, colds and dysentery.

Other; The fruits of both species are considered edible and are also eaten by birds.

The wood is used to build local bee-hives and the white latex is used for plugging holes in boats. (See 'Flowering Plants of The Gambia' by G M Hallam, page 14).

Icacinaceae

A small family of twelve genera mentioned in 'Flora of West Tropical Africa', whose only representative in The Gambia appears to be Icacina.

Icacina senegalensis

MANANKASO, MANKANASO (M): BANKANAFI (W): KURABAN.

Flower: During the dry season.

Flower in lax cymes, whitish-yellow or cream. Sepals united into a calyx with short or long lobes. Petals hairy on the outside.

Fruit: Oval fruits growing at, or near, the top of the plant. Colour changes from green to red when ripe. The fruits have a velvet skin, a thin, red, edible flesh underneath this, with a large stone in the centre.

Leaves: Ovate to obovate, 5 - 15 cm long by 4 - 10 cm broad, smooth on both surfaces and waxy on the upper surface with conspicuously reticulate venation.

Size and habitat: A stout, erect herb 0.5 - 1 m high, sending up several suckers which become very tough and fibrous with age. Associated with areas of former cultivation.

Occurrence: Very widespread on all cultivated land.

Special remarks: The plant grows from a white, woody tuber deep under the surface of the ground which is very difficult to up-root.

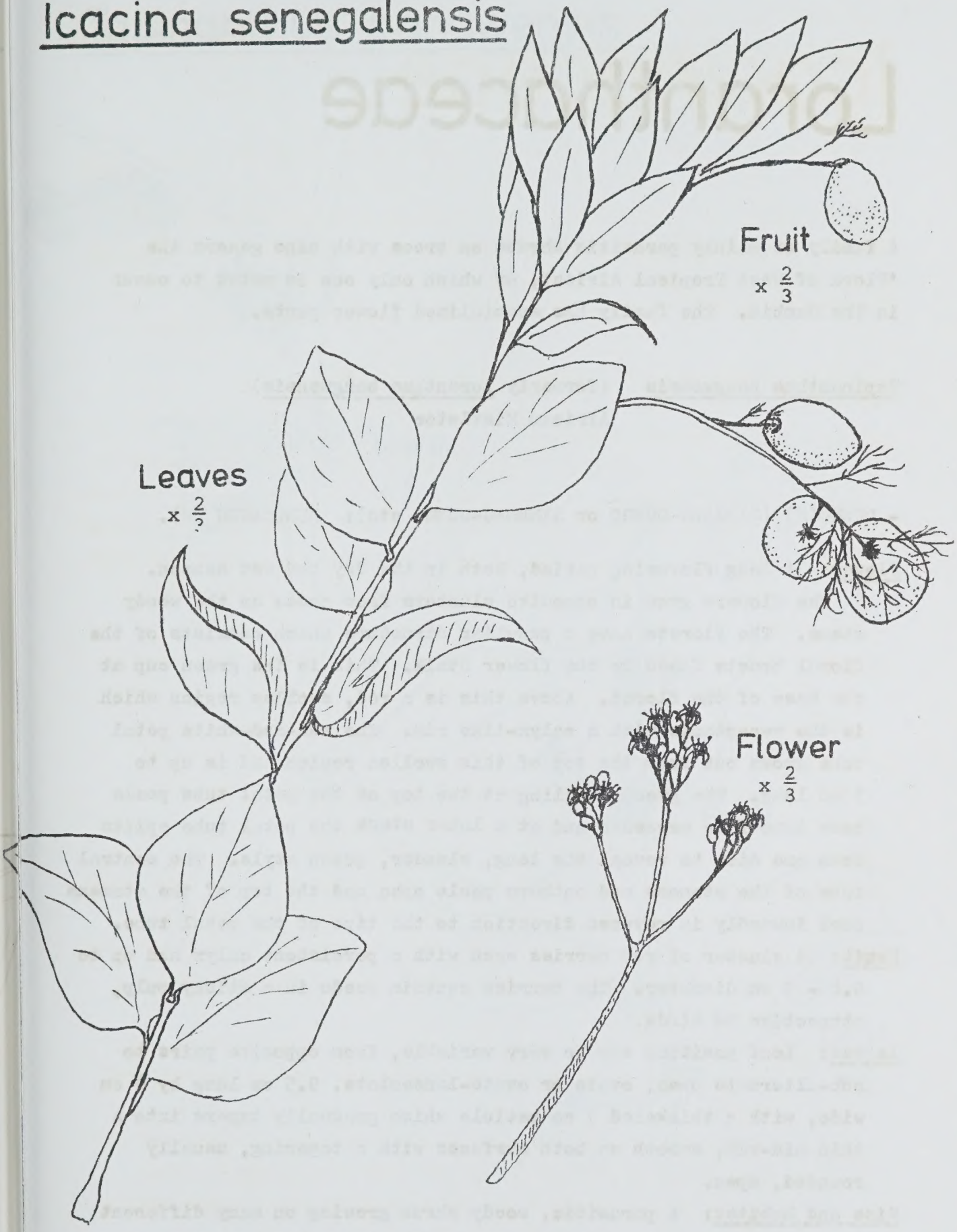
Uses: Medicinal; The leaves are used for bathing the eyes when there is some infection (Pa Cole, Dibba Kunda, Kombo St Mary, December 1978).

Other; The tuber was formerly used in times of famine, and the red fruits are eaten by people who live in the Badibou Region.

Small boys pull the leaves off the fibrous stems and use them to carry strings of cashew fruits. (Author's obs.)

The tuber, if eaten in great quantity, may cause cholic and dysentery (Appendix to 'Flora').

Icacina senegalensis



Loranthaceae

A family of mainly parasitic shrubs on trees with nine genera the 'Flora of West Tropical Africa', of which only one is noted to occur in The Gambia. The family has specialized flower parts.

Tapinanthus bangwensis (formerly Loranthus bangwensis).
African Mistletoe

- DUNGO(M) (SINJANG-DUNGO or SIMBONG-DUNGO etc): BENTENKEH (W).

Flower: A long flowering period, both in the dry and wet season. The flowers grow in opposite clusters from nodes on the woody stems. The florets have a peculiar structure which consists of the floral bracts fused to the flower stalk. This is the green cup at the base of the floret. Above this is a red, swollen region which is the receptacle with a calyx-like rim. The red-and-white petal tube grows out from the top of this swollen region and is up to 3 cm long. The green swelling at the top of the petal tube peels back into five segments and at a later stage the petal tube splits down one side to reveal the long, slender, green style. The central tube of the stamens and anthers peels open and the top of the stamens curl inwardly in reverse direction to the tips of the petal tube.

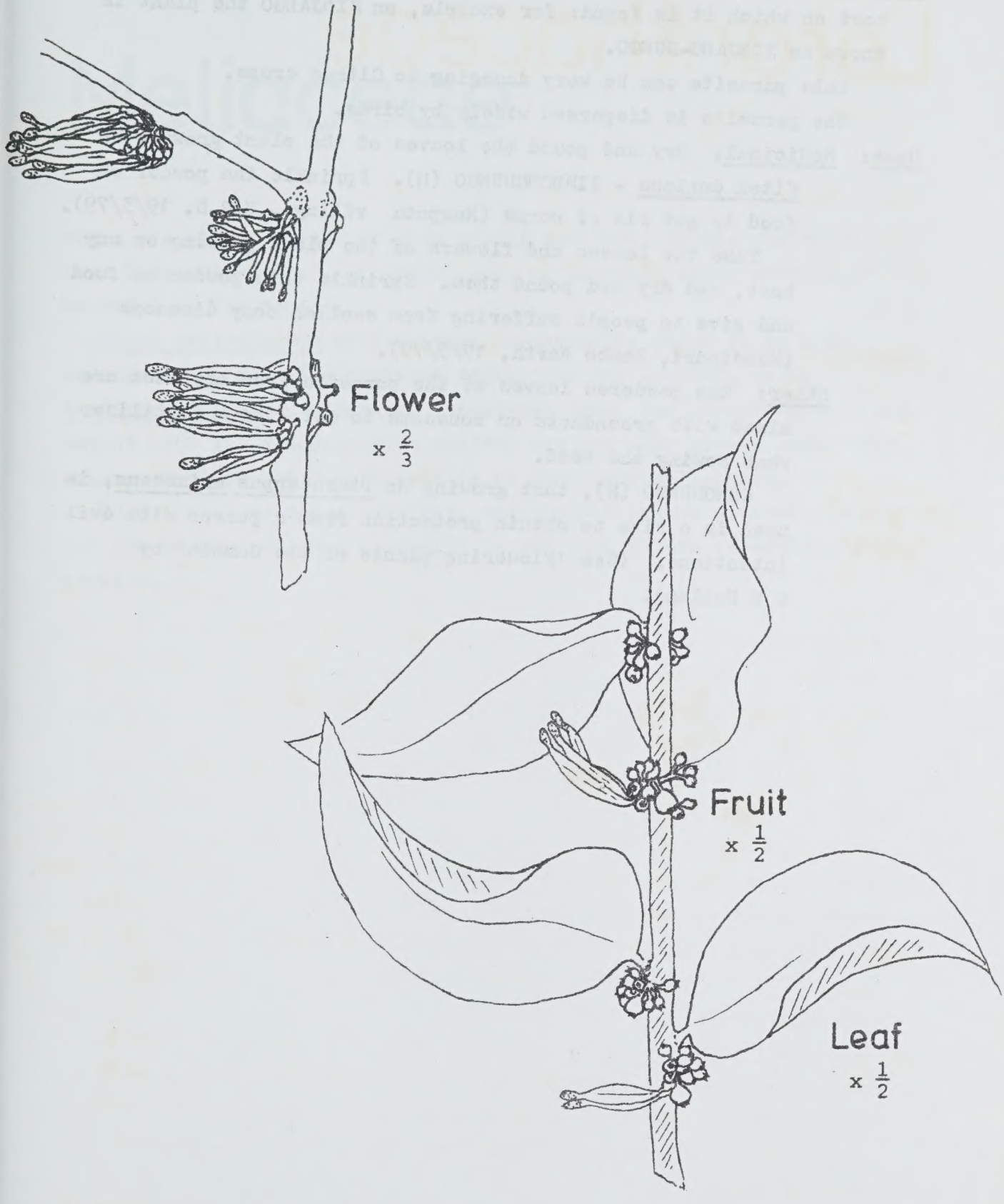
Fruit: A cluster of red berries each with a persistent calyx and up to 0.8 - 1 cm diameter. The berries contain seeds in a sticky pulp, attractive to birds.

Leaves: Leaf position can be very variable, from opposite pairs to sub-alternate ones, ovate or ovate-lanceolate, 9.5 cm long by 4 cm wide, with a thickened 1 cm petiole which gradually tapers into a thin mid-rib, smooth on both surfaces with a tapering, usually rounded, apex.

Size and habitat: A parasitic, woody shrub growing on many different sorts of hosts. Commonly found on cultivated Citrus species where it is a pest, as well as many wild savanna species.

Occurrence: Very widespread in The Gambia.

Tapinanthus bangwensis



Special remarks: The Mandinka name is prefixed by the name of the host on which it is found: for example, on SINJANGO the plant is known as SINJANG-DUNGO.

This parasite can be very damaging to Citrus crops.

The parasite is dispersed widely by birds.

Uses: Medicinal; Dry and pound the leaves of the plant growing on Vitex doniana - SIMBONGDUNGO (M). Sprinkle the powder on food to get rid of worms (Mampata village, U.R.D. 19/3/79).

Take the leaves and flowers of the plant growing on any host, and dry and pound them. Sprinkle this powder on food and give to people suffering from swollen body diseases (Mandinari, Kombo North, 17/5/79).

Other: The powdered leaves of the parasite from any host are mixed with groundnuts or couscous to act like a fertilizer when sowing the seed.

KENODUNGO (M), that growing on Pterocarpus erinaceus, is used in a rite to obtain protection from a person with evil intentions. (See 'Flowering plants of the Gambia' by G M Hallam).

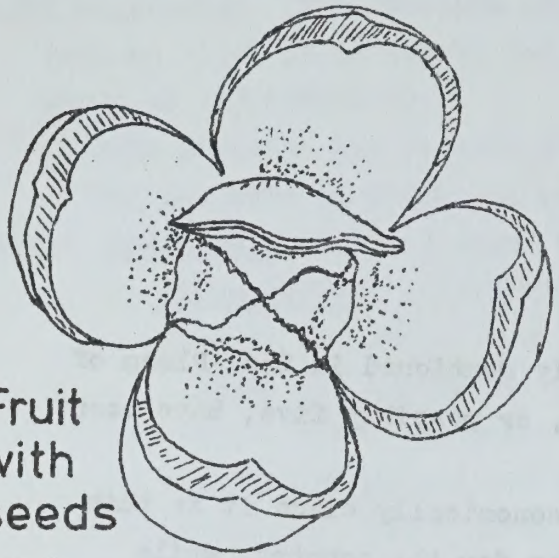
Meliaceae

There are eleven genera of this family mentioned in the 'Flora of West Tropical Africa', of which four, or possibly five, have been recorded in The Gambia.

Khaya senegalensis is important economically since it is this species which supplies hardwood timber for the country, while Azadirachta indica, though an introduced tree, has already made a big impact with its quick-growing ability and its many proven uses. The other genera in The Gambia seem to be much less well-known.

This family is recognised by: the pinnate leaves without glands, and the stamens which are usually joined into a tube resembling a corolla.

Khaya senegalensis

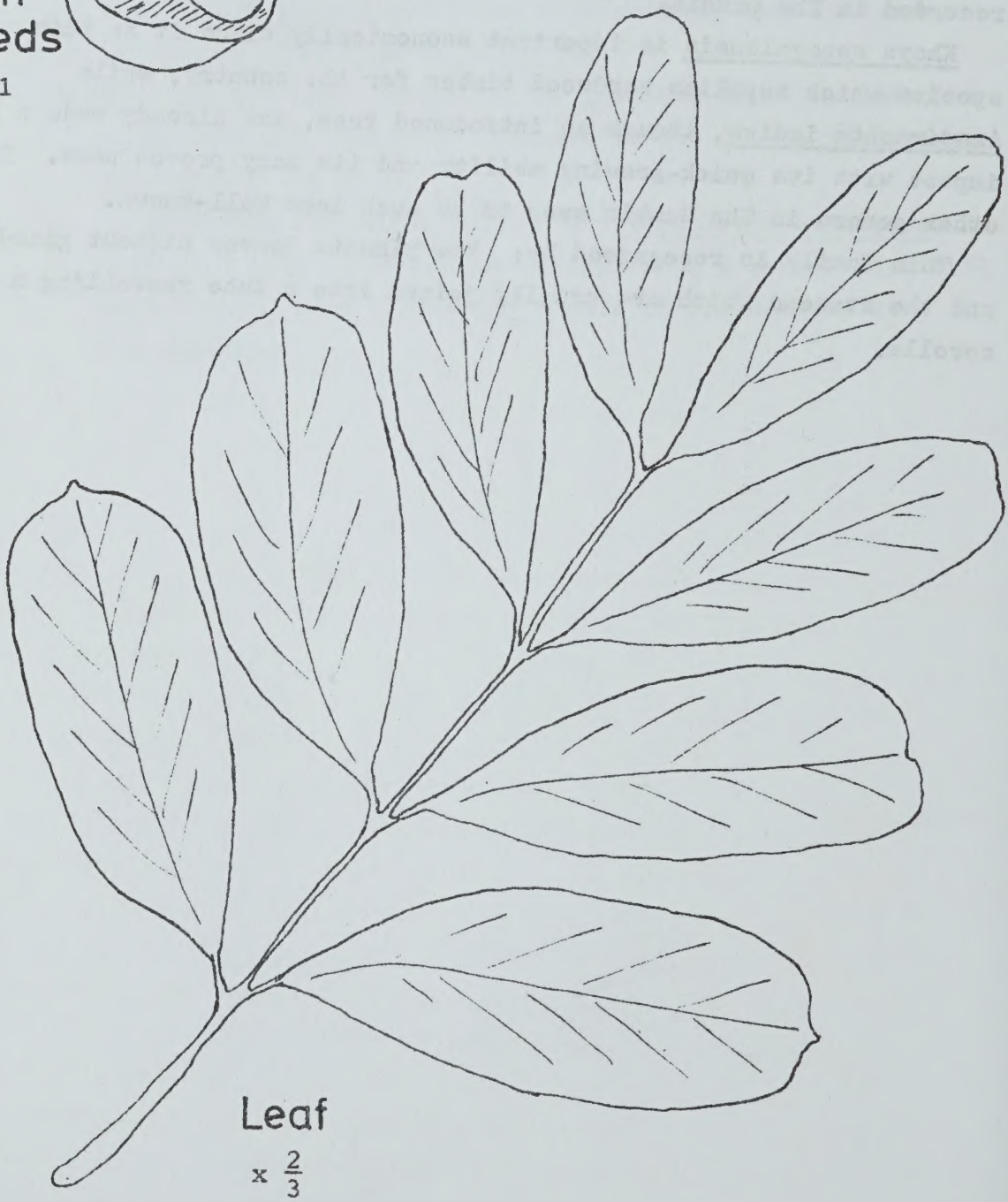


Fruit with seeds

x 1

Seed

x 1



Leaf

x $\frac{2}{3}$

Khaya senegalensis Dry Zone Mahogany Tree

JALLO (M): KHAYE (W): KAHI, KAYE (F).

Flower: During mid-March in U.R.D., April in the Fonis and April and May in the Kombos.

White or cream flowers scattered in long, branched panicles over the tree. The fresh flowers on a mature tree are difficult to reach, so the details have been taken from the 'Flora of West Tropical Africa'. Flowers four-part with sepals pale green, petals and staminal tube cream and the stigma yellow.

Fruit: A rounded, thick, woody capsule, 5 cm diameter, which splits open into four valves when it matures on the tree, though the thin, flat, papery seeds are not always successfully dispersed at that stage.

Leaves: Alternate up the stem, three to four pairs of opposite, or sub-opposite, leaflets, oblong, 10 cm long by 4.5 cm wide, with an abrupt, obtuse apex and a slightly unequal, cuneate base, margin entire. The leaflets are green and somewhat shiny on the upper surface when fresh, though they turn pale glaucous green on drying.

Size and habitat: A large tree growing up to 30 m or so, with a dense, rounded crown and slightly white, or silvery-grey, patchy bark on the thick trunks. A savanna tree growing near banks of streams, or in moist places.

Occurrence: A very widespread tree in The Gambia, common in the Kombos and Fonis, but much exploited. Good specimens seen near the main road in the compound of the Mother's Union Day Nursery at Banjulunding, Kombo North, and many other sites. An avenue of these trees lines the road when driving from Farafenni to Kaolack, Senegal.

Special remarks: At breast height round the base of the trunk the bark of the tree has often been removed.

Uses: Medicinal; The bark is soaked in water and this water taken in to cure fever, to improve body strength and to cure body rashes (Sutukonding U.R.D. 24/3/79).

The bark and roots are good for stomach ache (Lamin, Kombo North, 11/10/78).

Since the bark is very bitter it has a reputation as a fever remedy, when the dry bark is pounded, salt added and taken in small doses every second day.

Uses: Medicinal continued;

A cold infusion of the bark is given to horses for internal complaints associated with diarrhoea and an infusion of the bark mixed with bran or corn is given to cattle suffering from liver fluke. (Appendia to 'Flora' page 325).

For 'DUMO' (M) - described as a black spot on the sole of the foot (Author: this may be a verruca) - take the bark, pound a bit, warm and apply it to the infected area on the foot.

Azadirachta indica Neem Tree

YIRINDING KUNANGO (M)

Flower: During late dry season, in February and March in U.R.D. and April to May in the Kombos.

When in full bloom the trees are covered in long panicles of tiny, white flowers. The white florets are five-part, petals 0.5 cm long and valvate, stamens in a column at the centre, anthers minute, yellow.

Fruit: Oval, yellow drupes, 1.5 to 2 cm long, turning light brown when ripe.

Leaves: Alternate, imparipinnate leaves up the stem, nine or ten pairs of sub-opposite leaflets. Each leaflet, prominently asymmetrical about the mid-rib, a very unequal base, and tapering, acuminate apex, 7 cm long by 2.5 cm broad, ovate-lanceolate to lanceolate, with a toothed margin and smooth surfaces to the leaf.

Size and habitat: A dense, bushy, evergreen savanna tree which can grow up to 25 m high, but is usually much smaller. Grows on virtually any soil and regenerates prolifically.

Occurrence: An introduced tree, originally from India, but now very widespread. Can be seen lining the main road near the main Agricultural Office, Yundum.

Uses: Medicinal; There has been much research done into this plant and it seems as though it has many useful properties. Local people who have experimented with this relatively "new" tree have already found several medicinal properties themselves.

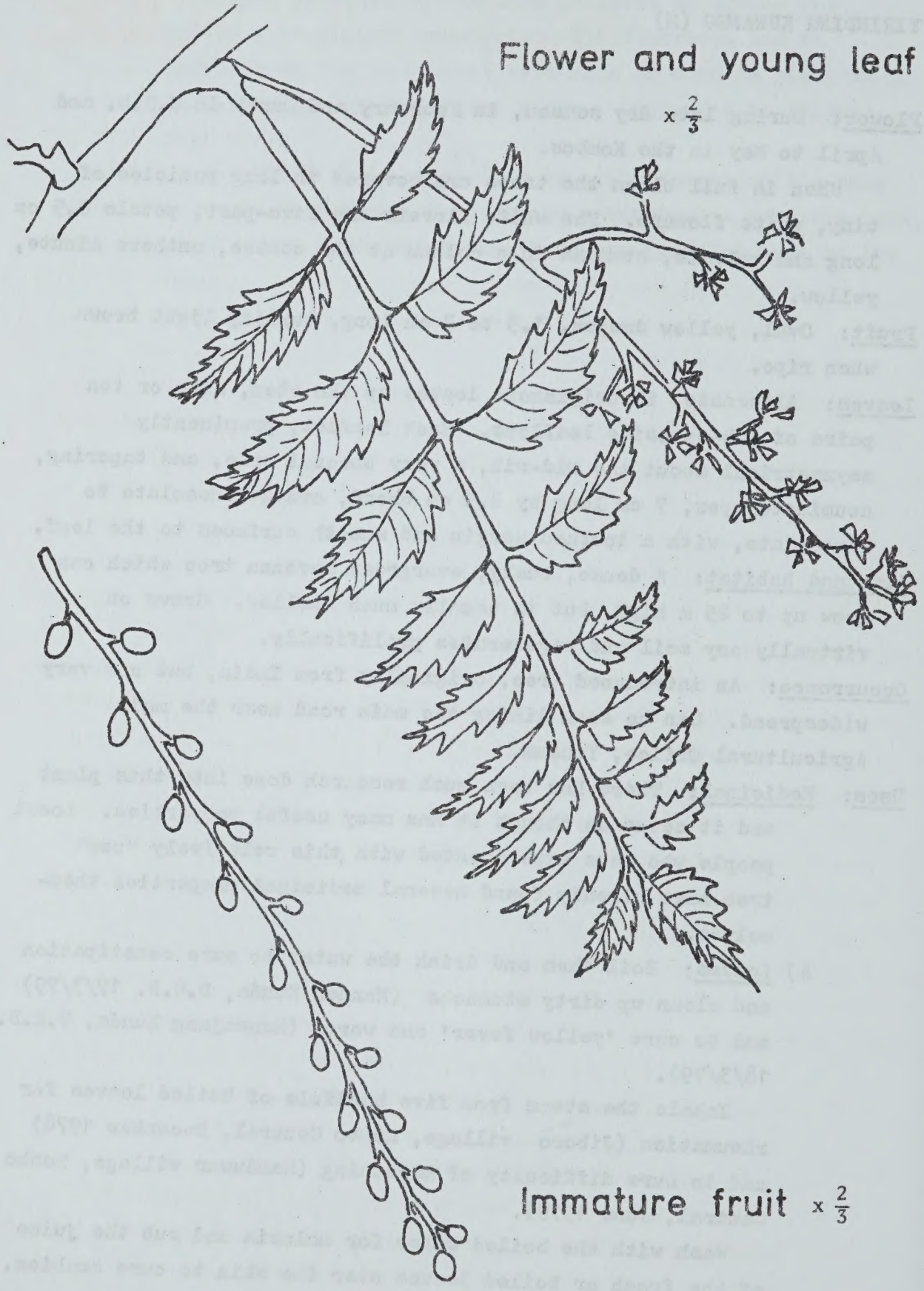
A) Leaves; Boil them and drink the water to cure constipation and clean up dirty stomachs (Manneh Kunda, U.R.D. 17/3/79) and to cure 'yellow fever' and worms (Mansajang Kunda, U.R.D. 18/3/79).

Inhale the steam from five handfuls of boiled leaves for rheumatism (Jiboro village, Kombo Central, December 1978) and to cure difficulty of breathing (Manduwar village, Kombo Central, June 1979).

Wash with the boiled water for malaria and rub the juice of the fresh or boiled leaves over the skin to cure scabies.

Take one handful of leaves, boil, and drink for worms.

Azadirachta indica



Flower and young leaf

$\times \frac{2}{3}$

Immature fruit $\times \frac{2}{3}$

Leaves mixed with those of TUBAB TABO (M) - Jatropha curcas - and boiled for chest pain (Dasilame village, Kombo Central).

Pound the leaves and use like a soap to wash the hair to get rid of lice (Busumbala, Kombo North, June 1979) and smear the pounded leaves over the skin to get rid of sores and spots (Kassa Kunda, Kombo Central, June 1979).

B) Branches; The woody branches are used as chew-sticks.

C) Fruit; After eating several fruits without ill-effect, one woman at Busumbala claims to have cleared up a case of worms.

For cases of sheep with a bloated stomach and constipation a mixture of pounded leaves and onion was given to the animal.

Other; At the time of writing (May/June 1979) trials concerning the effectiveness of the leaves and fruit as an insecticide are being carried out by the Christian Council under the Department of Agriculture at Yundum. The results will be published in due course.

References to some literature on Neem:

A) 'Neem Insecticide Trials' by the Christian Council, June - October 1979, The Gambia. In progress.

B) 'Azadirachta indica; a source of insect feeding inhibitors and growth regulators' Warthen, Jr, J.D.; U.S. Dept. Ag., Science and Ed. Admin. Agr. Rev. and Manuals; ARM-NE-4 April 1979. (Large index of citations).

C) 'Neem Tree 1, 2 and 3; potential uses, character and distribution' Radwanski S.; 1977; World Crops and Livestock 29, 62-63, 65-66, 111-113, 167-168.

D) 'Utilization of Neem and its bye-products' Report of the Modified Neem Cake Manurial Project 1969-1976, by Ketkar, Shri C.M.; Bombay, India.

E) See also: Horticultural Abstracts, 1975, 1976 and 1978.
Review of Applied Entomology Series A, 1974, 1976, 1977 and 1978.
Forestry Abstracts 1978.

F) A file on Neem Tree Research is kept at the Department of Forestry, Yundum.

Sapindaceae

There are twelve genera of this family mentioned in the 'Flora of West Tropical Africa', four of which are noted in The Gambia. These are Paullinia, Allophylus, Aphania and Dodonaea. Paullinia pinnata is a common climber, well known for its medicinal properties. While Aphania senegalensis bears a red, edible fruit similar in size to a cherry, known as 'NGORSO' (W) in Banjul where it is occasionally sold on the streets in May.

Paullinia pinnata

JAMBA-LULU (lit: five leaves, but the name also covers other plants) (M): KEP I GNEY (W): FUNGO (J).

Flower: During the late dry season and early rains.

Spikes about 3.5 cm long of small, white flowers, on a curling, wiry stalk which takes the place of a leaf. Florets in tight bunches up the spike, four white petals and stamens yellow. At the base of the spike are two spirally coiled tendrils.

Fruit: A three-lobed capsule, 2.5 cm long with an apical beak. The green, immature fruits have a soft pith in which young seeds are developing. Calyx persistent.

Leaves: A compound leaf with five leaflets and a winged mid-rib. The lateral leaflets are about 8 cm long and the terminal one 11 - 12 cm long and 4.5 - 5 cm broad. Leaflets oblong to obovate, coarsely toothed round the margin with minute hairs on the nerves and mid-rib.

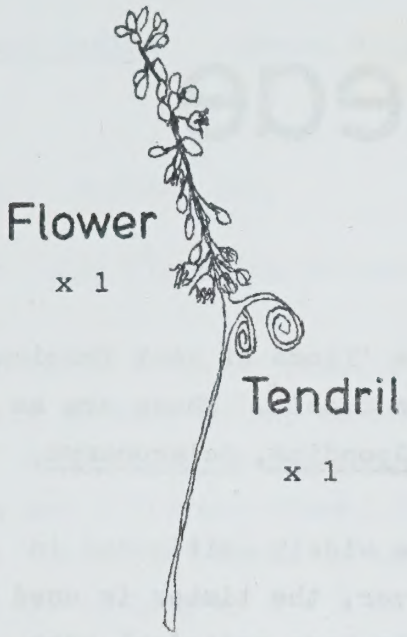
Size and habitat: A woody climber with tendrils in moist areas and in stream-side vegetation in savanna areas.

Occurrence: Common in the Kombos near bolons and vegetable gardens such as at Mandinari village. Also found in the rice fields in M.I.D.

Uses: Medicinal; Boil the leaves and drink the water to get rid of external and internal swellings.

Soak the leaves in a jar and use the water to wash sick children.

Paullinia pinnata

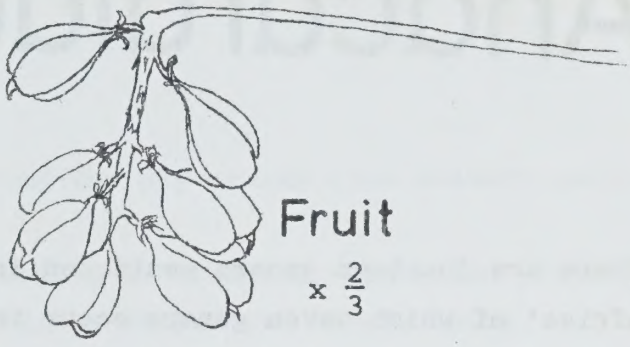


Flower

x 1

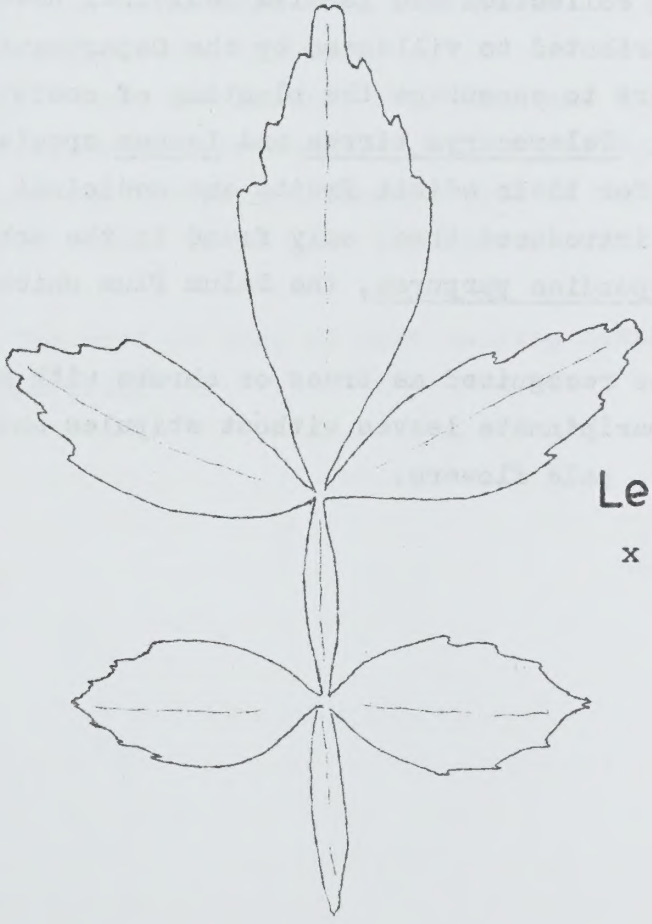
Tendril

x 1



Fruit

x $\frac{2}{3}$



Leaf

x 1

Anacardiaceae

There are fourteen genera mentioned in the 'Flora of West Tropical Africa' of which seven genera occur in The Gambia. These are as follows: Mangifera, Anacardium, Heeria, Spondias, Sclerocarya, Pseudospondias and Lannea.

Mangifera indica, a native of India, is widely cultivated in this country mainly for the fruits. However, the timber is used to make wooden cooking utensils and the leaves have medicinal uses.

Anacardium occidentale is a native of tropical America, but is now widely planted in The Gambia as a multi-purpose tree for fire-wood, nut and fruit collection and for its medicinal uses. Seed nuts have been distributed to villagers by the Department of Forestry in an effort to encourage the planting of useful trees.

Spondias mombin, Sclerocarya birrea and Lannea species are all well-known locally for their edible fruits and medicinal uses.

A more recently introduced tree, only found in the urban gardens of the Kombos, is Spondias purpurea, the Salum Plum which produces large, edible fruit.

The family can be recognised as trees or shrubs with resinous bark, compound, imparipinnate leaves without stipules and panicles or racemes of small, pale flowers.

Mangifera indica Common Mango Tree

DUTO (M): MANGARO (W).

Flower: Long flowering period during the dry season from January until May.

Flowers white or pink, very small, in terminal, elongated panicles nearly as long as the leaves. Flower stalks and sepals hairy.

Fruit: An oblique, ovoid drupe, up to 15 cm long with a tough, leathery skin and a fibrous stone. Sweet, succulent, yellow flesh but stringy.

Leaves: Occur in whorls up the stems. Strap-shaped, or oblong-lanceolate, 20 - 30 cm long by 6 - 8 cm broad with a long petiole. Leaves smooth on both surfaces, cuneate at the base and acute at the apex.

Size and habitat: A medium, or large sized, tree growing all over The Gambia wherever there is some habitation.

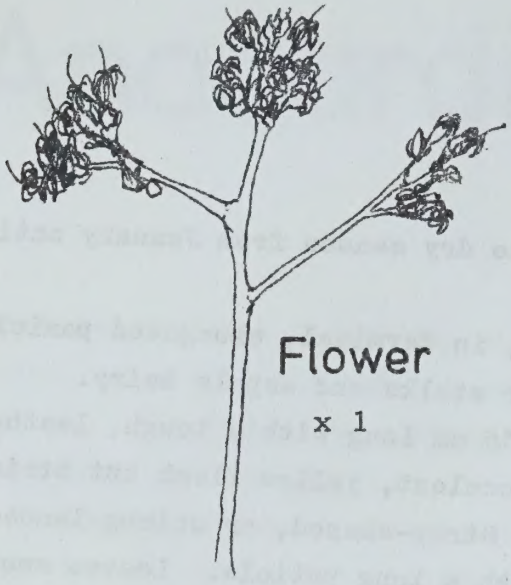
Special remarks: An introduced tree from India and South East Asia, but now found throughout the tropics.

Uses: Medicinal; Take the leaves, boil them and drink the water for chest troubles (Jar Kunda, U.R.D. 24/3/79).

Take the leaves and squeeze them in water. Use this water to wash with. It is good for spotty skin and 'SANSANG-BARANG' (M).

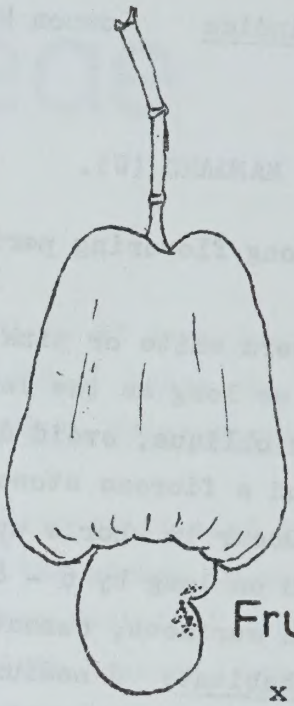
Other; The wood is used to make cooking utensils and souvenirs for tourists.

Anacardium occidentale



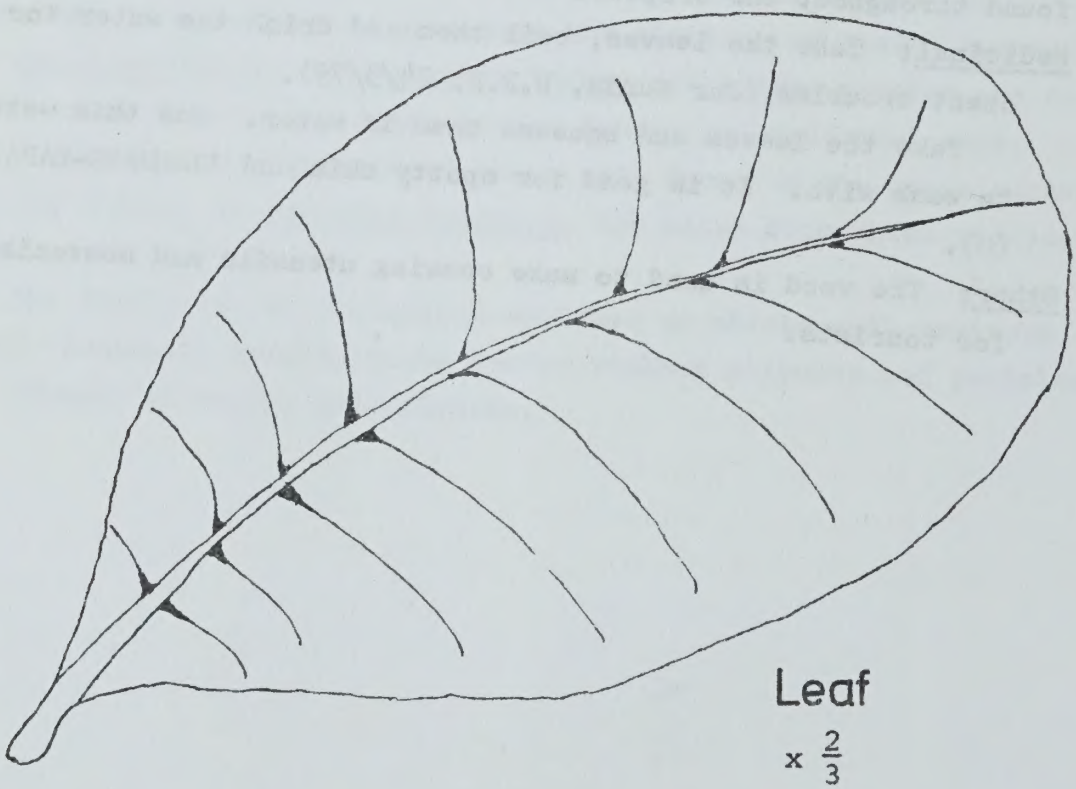
Flower

x 1



Fruit

x 1



Leaf

x $\frac{2}{3}$

Anacardium occidentale Cashew Tree

KASSUOWO (M): KASSU (W).

Flower: During late dry season from April to June.
In tightly clustered heads at the end of branched panicles. Each floret has five green petals with thin red stripes, but is fairly inconspicuous. Calyx with five overlapping lobes. The florets are each surrounded by bracts.

Fruit: The fruit is composed of a fleshy yellow or red structure which is, in fact, the expanded stalk or receptacle. Below this hangs the kidney-shaped, tough, grey-coated seed. This seed is surrounded by a smooth skin.

Leaves: Occur in whorls near the ends of the branches. They are oblong-obovate, 20 cm long by 14.5 cm wide, smooth above and below, with twelve pairs of nerves on the underside of the leaf.

Size and habitat: A small, or medium, tree 4 - 6 m high which is good at resisting drought and hence does well in dry areas.

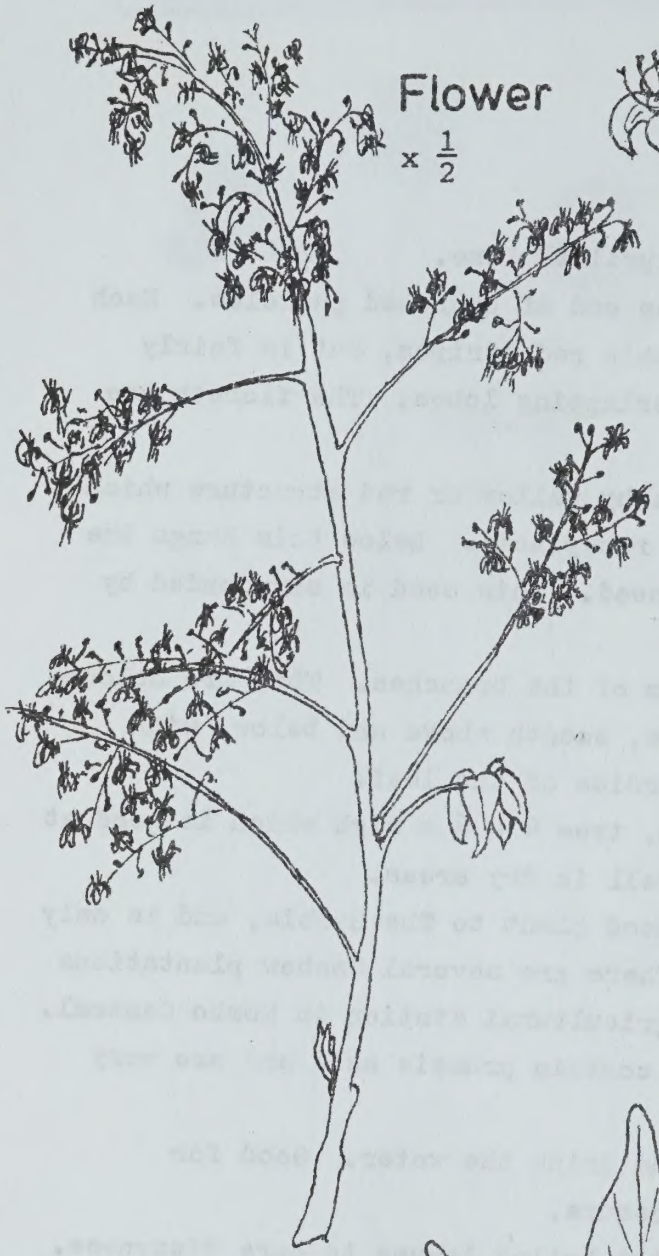
Occurrence: The Cashew is an introduced plant to The Gambia, and is only found near sites of habitation. There are several Cashew plantations between Banjulunding and Yundum Agricultural Station in Kombo Central.

Special remarks: The uncooked seeds contain prussic acid and are very bitter if chewed.

Uses: Medicinal; Boil the leaves and drink the water. Good for diabetes and high blood pressure.
Wash with the water of the boiled leaves to cure dizzyness.
Boil the bark, and drink the water, to remedy a weak bladder.
Boil, or soak, the bark in water and drink to cure diarrhoea (Lamin, Kombo North, 11/10/78).

Other; The wood is used locally for fire-wood.

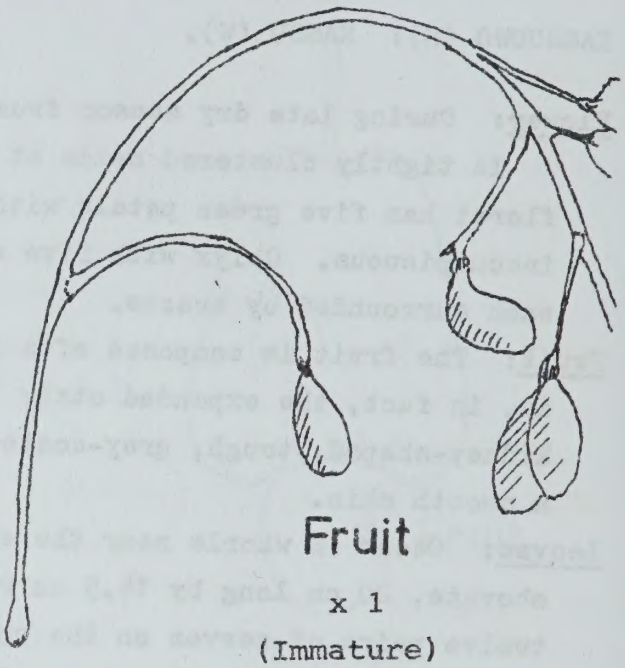
Spondias mombin



Flower

x $\frac{1}{2}$

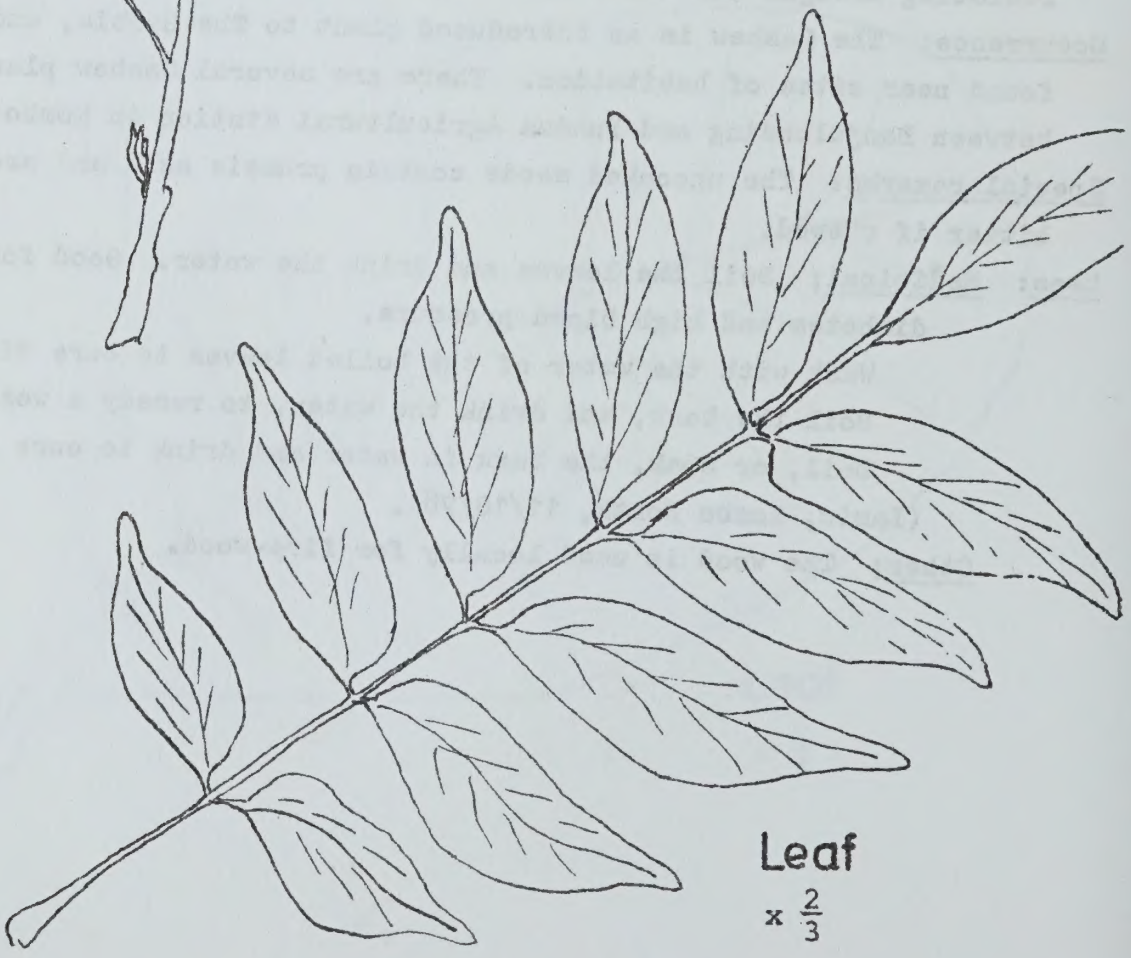
x 3



Fruit

x 1

(Immature)



Leaf

x $\frac{2}{3}$

Spondias mombin

NINKON (M,W): CHALEH (F).

Flower: During April, May and June in the Kombos.

Borne on long, lax, terminal panicles up to 30 cm long. The minute flowers occur in branches opposite each other along the panicle. Each floret 3 mm long, with five cream, valvate petals which curl back on themselves; ten slender stamens, though some may be residual, and three sessile stigmas.

Fruit: An ovoid drupe, 3 - 3.5 cm long, yellow or red when ripe, but wrinkles up when dry. The old, fallen fruits have a corky appearance. The fruits are ripe during the early rainy season.

Leaves: Compound, with leaflets in pairs and an odd terminal leaflet. During young growth the rhachis has tiny hairs and the upper surface is tinged dark red. Five to eight pairs of leaflets, 9 cm long by 2.8 cm broad or smaller, smooth on both surfaces, lanceolate with tapering, rounded apex and asymmetrical leaf base. Around the margin of the leaf runs a connecting vein. Leaf tissue is of a darker green immediately around the nerves.

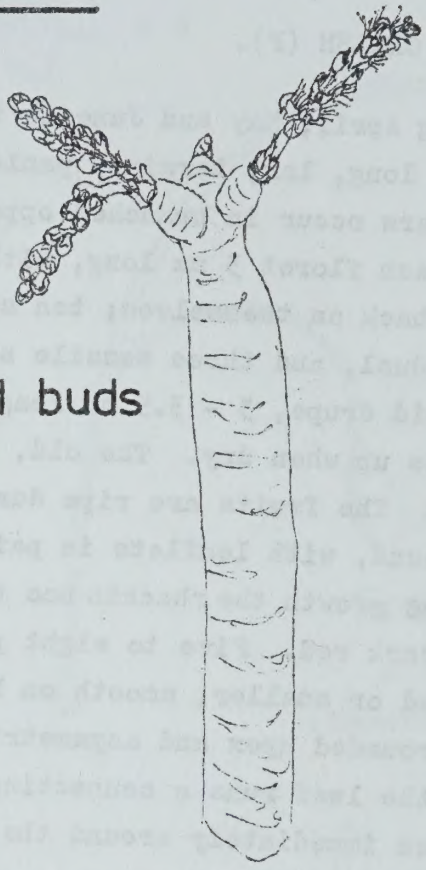
Size and habitat: A deciduous tree, growing to 20 m high, found on the edges of savanna woodland and on farmland. Bark hard and deeply fissured.

Occurrence: Specimens occasionally sighted in the bush around the Kombos. Locally common in the bush near Gunjur, Kombo South.

Uses: Medicinal; Soak the roots in water and drink this water to get rid of leprosy (Mandinari village, Kombo North, 14/6/79).

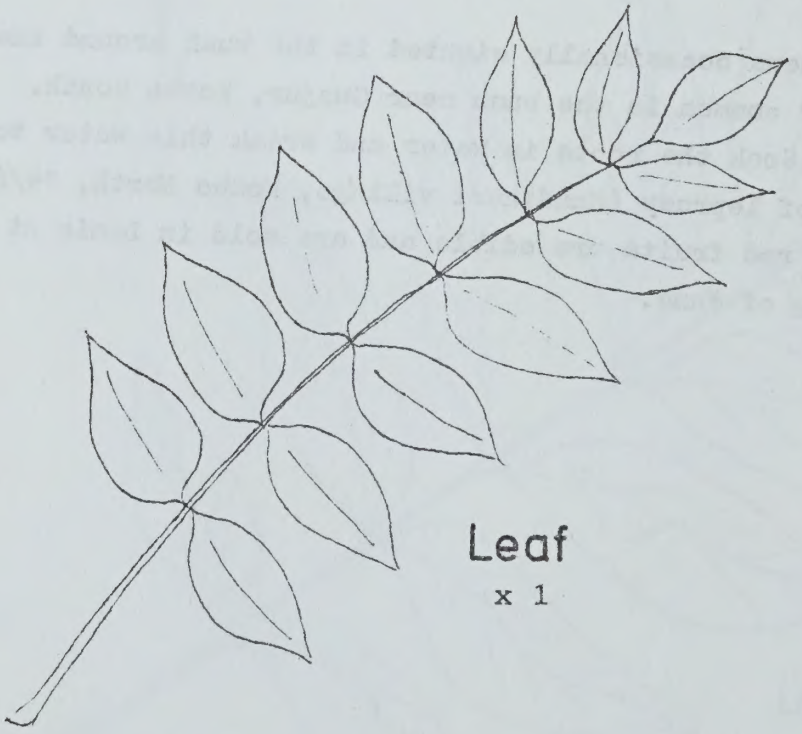
Other: The red fruits are edible and are sold in Lamin at the beginning of June.

Sclerocarya birrea



Flowers and buds

x 1



Leaf

x 1

Sclerocarya birrea

KUNTANG-JAWO (M): BIRR (W): ERIE, KUNTANG (F).

Flower: Just finishing flowering in U.R.D. in mid-March, but also found in flower in the Kombos in June.

Male and female flowers on different trees. Males in short red spikes, with florets surrounded by broadly ovate bracts with membranous margins. The florets are about 0.5 cm diameter, and have reddish-purple coloured sepals and petals. Each floret has twelve yellow stamens. The spikes occur near the ends of the branches between the clustered leaves.

Fruit: A small, yellow, rounded drupe, 2 - 3 cm diameter, with a tough, yellow, leathery skin and a white juicy, stringy flesh surrounding a pink stone inside. Ripe fruits found in the Kombos in June.

Leaves: In clustered branches at the ends of the branches, imparipinnate, leaflets opposite or sub-opposite, six or seven pairs, elliptic or ob-ovate, very acute at apex, smooth, 5.5 cm long by 3.5 cm broad with an 0.5 cm petiole.

Size and habitat: A savanna tree up to 10 m high with grey, fissured bark, growing in dry woodlands and open places.

Occurrence: Not common in the Kombo region, but found in the provinces.

Uses: Medicinal; Boil the leaves for ten minutes or so and, when cool, rub the juices on the teeth to cure toothache.

Also for toothache, burn or boil the bark, and apply the ash to the gums or swill the water around the mouth.

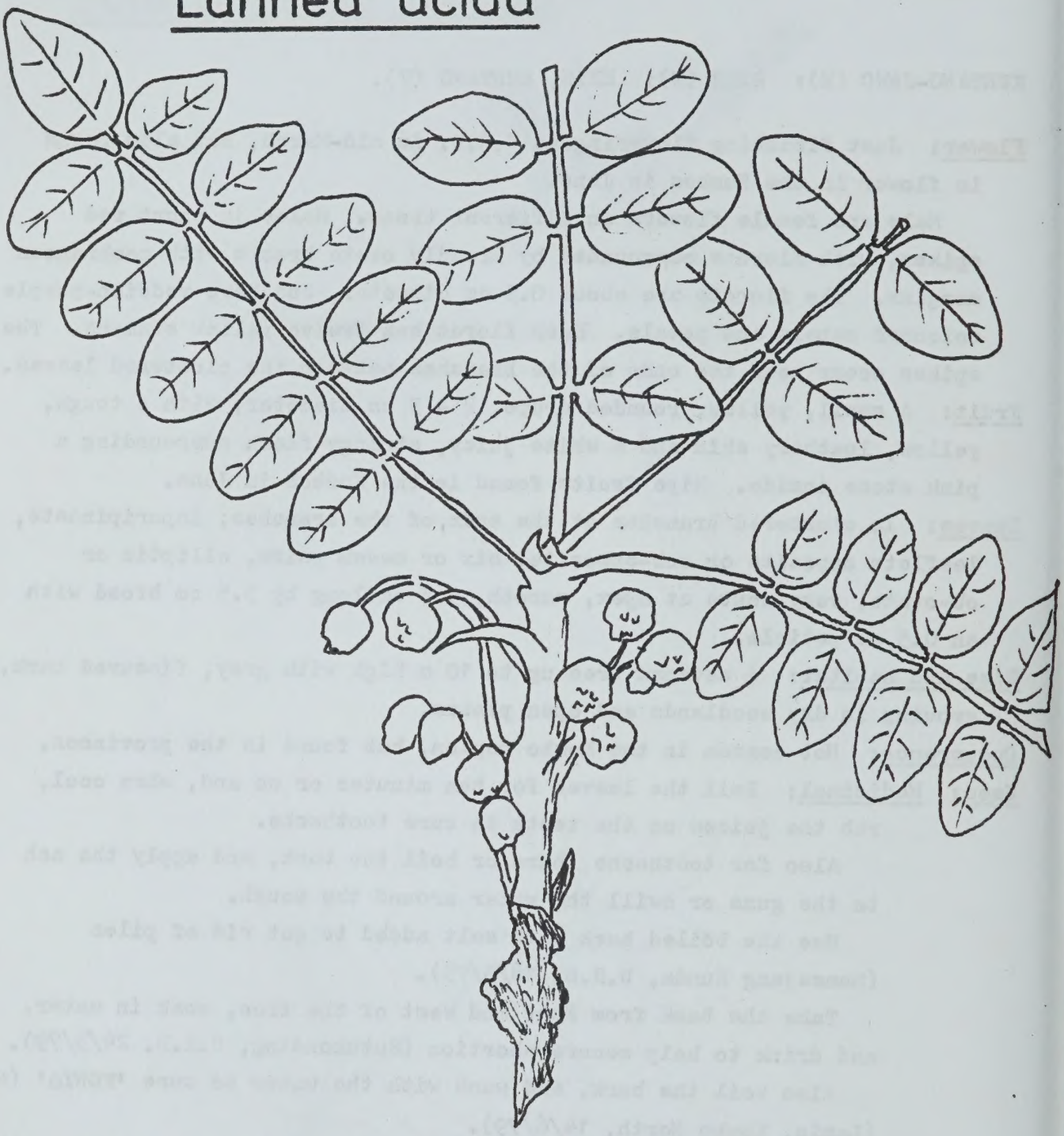
Use the boiled bark with salt added to get rid of piles (Mansajang Kunda, U.R.D. 18/3/79).

Take the bark from East and West of the tree, soak in water, and drink to help secure abortion (Sutukonding, U.R.D. 24/3/79).

Also boil the bark, and wash with the water to cure 'FONYO' (M) (Lamin, Kombo North, 14/6/79).

If several of the fruits are eaten all at once, they can make a person go light-headed or dizzy.

Lannea acida



Branch with fruit and leaves

x $\frac{2}{3}$

Lannea acida

BEMBO (M): SONN (W): TINGOLI (F).

Flower: Male flowers in late April in the Kombos, while the female already has immature fruits at that time.

The tree is dioecious and this is clearly recognised by local people who distinguish BEMBO-MUSO and BEMBO-KEO (M). The male (-KEO) produces whorls of elongated inflorescences 12 - 14 cm long at the ends of the branches. The female produces inflorescences which are generally shorter and the stems are generally thicker. In both, the florets are yellow and minute.

Fruit: The female plant produces erect fruits on axillary, branched stems, often crowded near the apex. Fruit, a red, to purple-black, ellipsoid drupe, 8 - 10 mm long, and 7 - 8 mm broad. When immature, the green fruits and stalks are covered in fine hairs, and four residual stigmas remain at the apex.

Leaves: Male and female trees have slightly different shaped leaves. The male has three, sometimes four, pairs of rounded leaflets 6 cm long by 4.5 cm wide, with a much longer, oblong, terminal leaflet. Leaf base unequal, while the leaf apex rounded and slightly flattened. Leaves and rhachis covered with short hairs. The female tree has five, or four, pairs of elongated leaflets, up to 10 cm long by 5 cm wide, tapering at the apex and rounded at the base. Leaves also soft and hairy.

Size and habitat: A small savanna tree growing up to 6 metres with thick, stout branches.

Occurrence: Found in the bush behind Bahama Camp, Yundum. Fairly widespread in other places.

Special remarks: A character of all Lannea's is the sepals which are united into a cup.

Uses: Medicinal; The bark is taken from East and West of the tree, soaked in water, and this water taken in to get rid of a special type of worm in the stomach. The worm is called 'DAKOI KAKYA' (M): it makes the lips of the infected person go red.

Other: A rope can be made from the bark.

The ripe fruit can be eaten and the leaves made into a tea.

Heeria insignis

KORON-KONDO (M): GYOLO-KIDIMO (F).

Flower: Date of flowering unknown.

The following description is taken from the 'Flora of West Tropical Africa': Inflorescence lax, over-lapping with the leaves. Flowers small, creamy, five-part.

Fruit: Glossy black fruits.

Leaves: Oblong, elliptical or broadly lanceolate, with a petiole, scattered, or irregularly whorled, 4 - 14 cm long by 1 - 4 cm broad. Under-surface of leaves silvery white.

Size and habitat: A shrub or small tree about 5 - 7 metres high.

Occurrence: Reported from the bush near Brikama, and in Nyambi Forest.

Uses: Medicinal; Take the leaves, boil them and drink the water for chest pains (Sutukonding, U.R.D. 24/3/79).

The water from boiled leaves is given to pregnant women to make the expected child healthy and strong.

Boil the leaves and add oil, and rub on newly born children to relieve pain (Mampata village, U.R.D. 19/3/79).

Dry the inner bark, pound and apply to wounds.

Take the bark and soak it in water. Drink the water and press the bark on the swollen area of the body in cases of 'DYNO'(M) (Jar Kunda, U.R.D. 24/3/79).

Loganiaceae

This small family has six genera mentioned by the 'Flora of West Tropical Africa', three of which occur in The Gambia. They are: Usteria, Anthocleista, and Strychnos.

Strychnos spinosa is the best known by local people for its many medicinal properties. It is a familiar plant in and around the Basse area of U.R.D. The leaves of Anthocleista procera - The Cabbage Tree - are used to line sacks of kola nuts to prevent them from drying out, but so far local people have not mentioned many medicinal uses for the plant.

The members of this family have opposite pairs of leaves which are sometimes linked by a ridge on the stem. The flowers are in small heads, with the stamens alternating between the lobes of the corolla.

Strychnos spinosa Kaffir Orange

PATAKULE (M): FATAKULE (F): UFOG (J): GINGINGANA (Manjago): GORGE (Serahuli).

Flower: During January.

Greenish-white flowers in short, compound cymes. Sepals lanceolate.

Fruit: A large, yellow, thick-walled fruit about the size of a fist. The skin is smooth, about 2 mm thick, and the fruit is about 7.5 cm in diameter. The seeds are set in a pulp inside the fruit. The fruit becomes ripe in the early rainy season.

Leaves: Rounded, and slightly mucronate, or emarginate to acuminate at apex, very variable in shape and size, suborbicular to elliptic in shape 3 - 8 cm long by 1.3 to 7 cm broad, may be hairy or smooth beneath. Branches with axillary, curved, reflexed spines.

Size and habitat: A small tree, 7 m high, with a light, spreading crown, of savanna woodland.

Occurrence: Found in the bush near Basse U.R.D. and again in the bush near Marakisa village, Kombo Central. Occasional, but not very widespread.

Uses: Medicinal; Take the leaves, boil them in water and wash open wounds with the water. Take the bark, dry it in the sun, and pound it. Apply this powder to the wounds when dry.

Use the water from the boiled leaves to wash the face when having eye trouble (Lamin, Kombo North, 11/10/78).

Take the roots, cut them up, and pound them, add water and drink. This helps to strengthen a man's penis (Pullo Bah, Sare Satchu, U.R.D. 23/3/79 and repeated elsewhere).

Take the roots, split them up and soak them in water. Drink this water to relieve 'KESANTO' (M) (Fallye Janko, Manneh Kunda, U.R,D. 17/3/79 and also at Koli Bantang, U.R.D. 24/3/79).

Boil the roots and drink the water to get rid of a special worm which causes fainting (Mansajang Kunda, U.R.D. 18/3/79).

Take the roots of the young plants, dry and pound them, and use the powder on food to cure stomach ache (Mampata U.R.D. 19/3/79, Sabi U.R.D. 19/3/79 and also Nanetto, Kombo Central, 11/11/78).

Boil the roots and drink the water to get rid of pain in the joints and to cure head-aches (Jar Kunda, U.R.D. 24/3/79).

Uses: Other; The pulp of the fruit is yellow-brown, edible, acid and agreeable, with a sweet, vinous taste when ripe.

Eating two or three fruits, along with the seeds, is said to cause violent vomiting.

In Senegal, the leaves are said to be eaten with couscous.

Apocynaceae

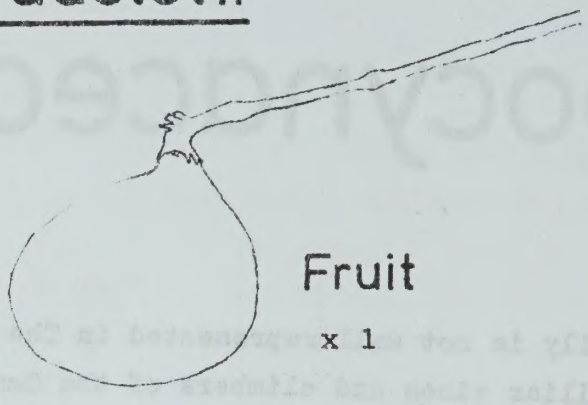
This family is not well represented in The Gambia but several of the more familiar vines and climbers of the Gambian countryside belong here.

The 'Flora of West Tropical Africa' lists thirty-seven genera of which the following eight have been recorded in The Gambia: Landolphia, Saba, Voacanga, Alstonia, Holorrhena, Strophanthus, Alafia and Baissea.

The first two mentioned above are vines which look very similar. Both produce an acid tasting fruit which may be found on sale in the markets during the early rainy season. Landolphia heudelotii formerly was a source of rubber latex in The Gambia in colonial days. Strophanthus species appear either as scandent shrubs or woody, fissured climbers which produce extraordinary flowers.

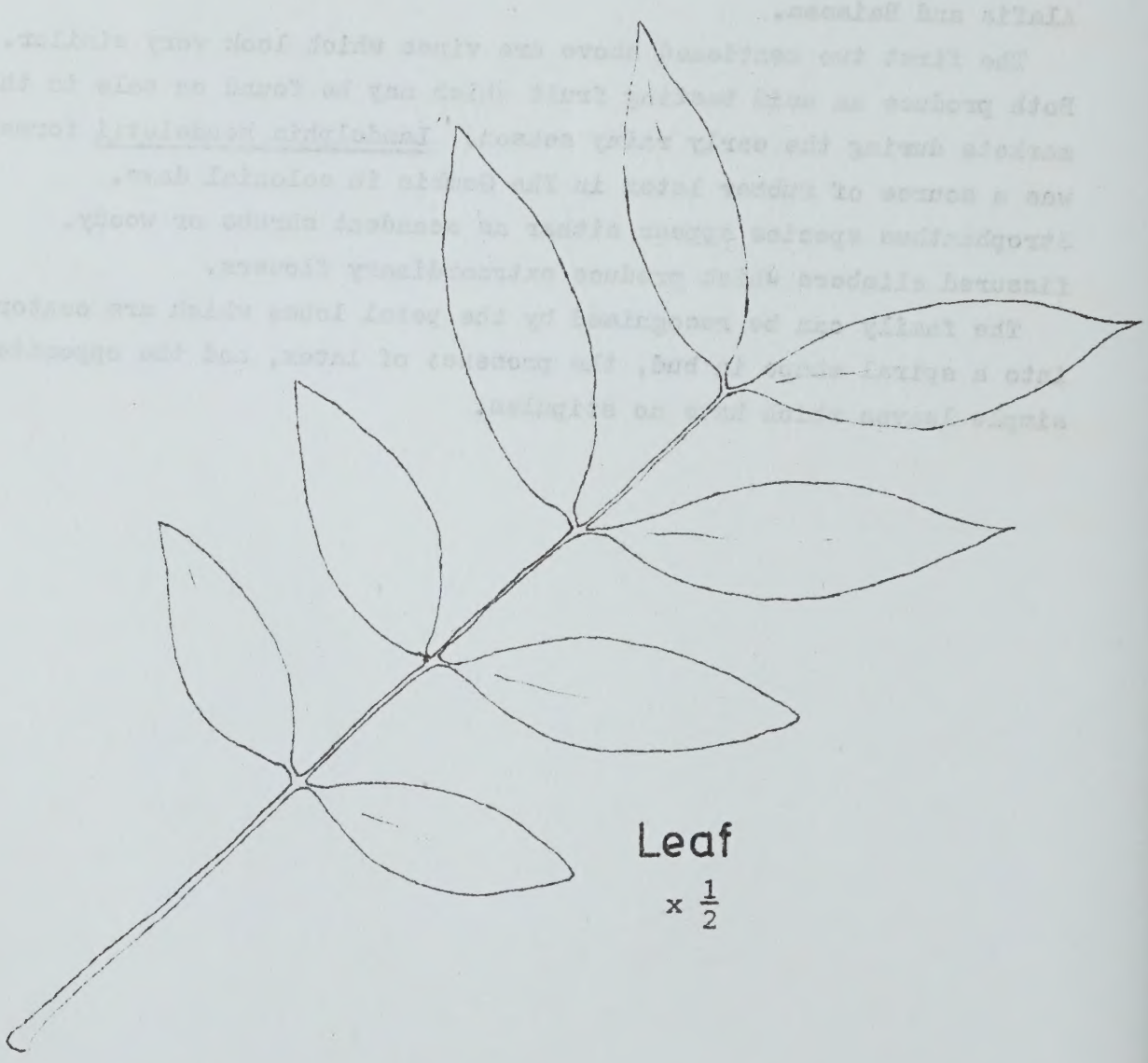
The family can be recognised by the petal lobes which are contorted into a spiral shape in bud, the presence of latex, and the opposite, simple leaves which have no stipules.

Landolphia heudelotii



Fruit

x 1



Leaf

x $\frac{1}{2}$

Landolphia heudelotii 'The Gambian Rubber Vine'

FOLAY (M): FOLERI (F): BUIEMBABU (J).

Flower: Through most of the dry season, starting in December.

The flowers appear in terminal and axillary clusters. Calyx is a series of five minutely hairy sepals, 3 - 4 mm long, above a short stalk. The floret has five white, curved petal lobes which twist in a clockwise direction. The green stigma, which is fairly short, is hidden in the corolla tube. The florets do not last long before turning brown.

Fruit: Smooth skinned, spherical fruit, 3 - 4 cm diameter. The fruit turns yellow or brown when ripe, and the fruit coat becomes fragile. The seeds are set in angular balls of pulp.

Leaves: The young leaves generally have a rust-brown indumentum of hairs on the mid-rib nerves and petiole. Both sides of the young leaves are softly hairy, while the mature leaves are glabrous. The upper surface of the mature leaf is waxy, and has prominent, alternating nerves. Leaves opposite, oblong-lanceolate, 10.5 cm long by 3.5 cm broad, entire margin and acute apex.

Size and habitat: A leafy, climbing vine: and also found as a rambling shrub. Young branches send out axillary stems which twist round other plants.

Occurrence: Fairly widespread in the Kombos, found in Kabafita Amenity Belt, Abuko Nature Reserve and in the bush near Mandinari.

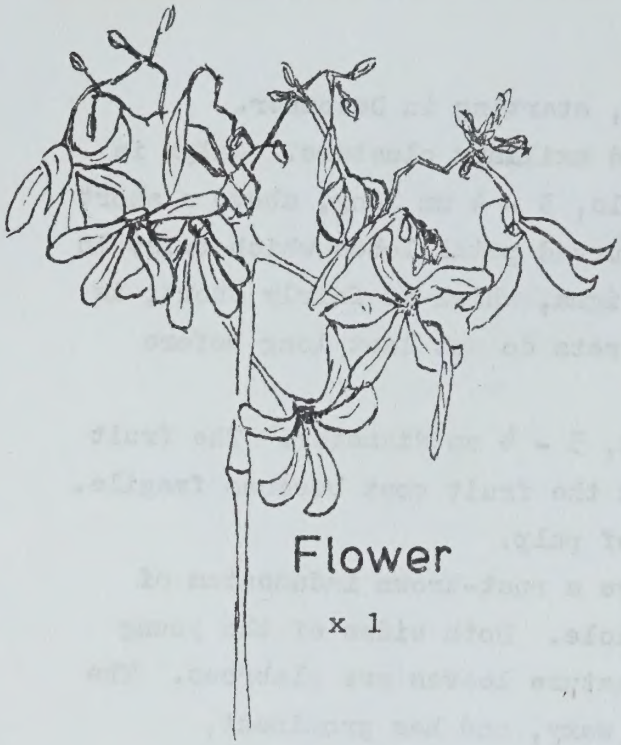
Uses: Medicinal; To take out small insects that occasionally get into people's ears, the juice from the root is mixed with some salt and put into the ear on the end of a stick. The juice being sticky will trap the insect which then can be removed on the stick.

Other; The fruit is edible and may be seen on sale in the markets in the early rainy season.

Many years ago this plant was exploited for its latex which was wound up into balls of rubber - hence the English name given.

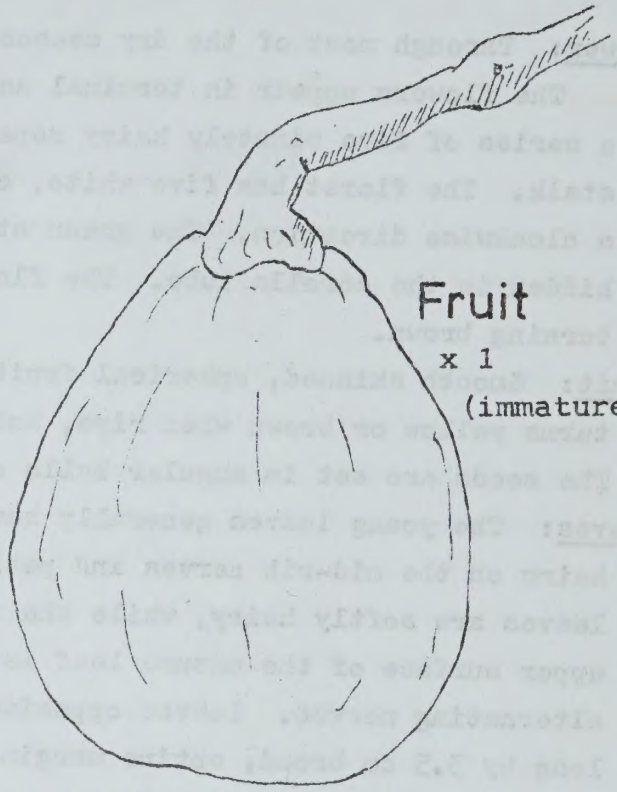
Nowadays the latex can be used in place of rubber solution to mend rubber patches on bicycle inner tubes.

Saba senegalensis



Flower

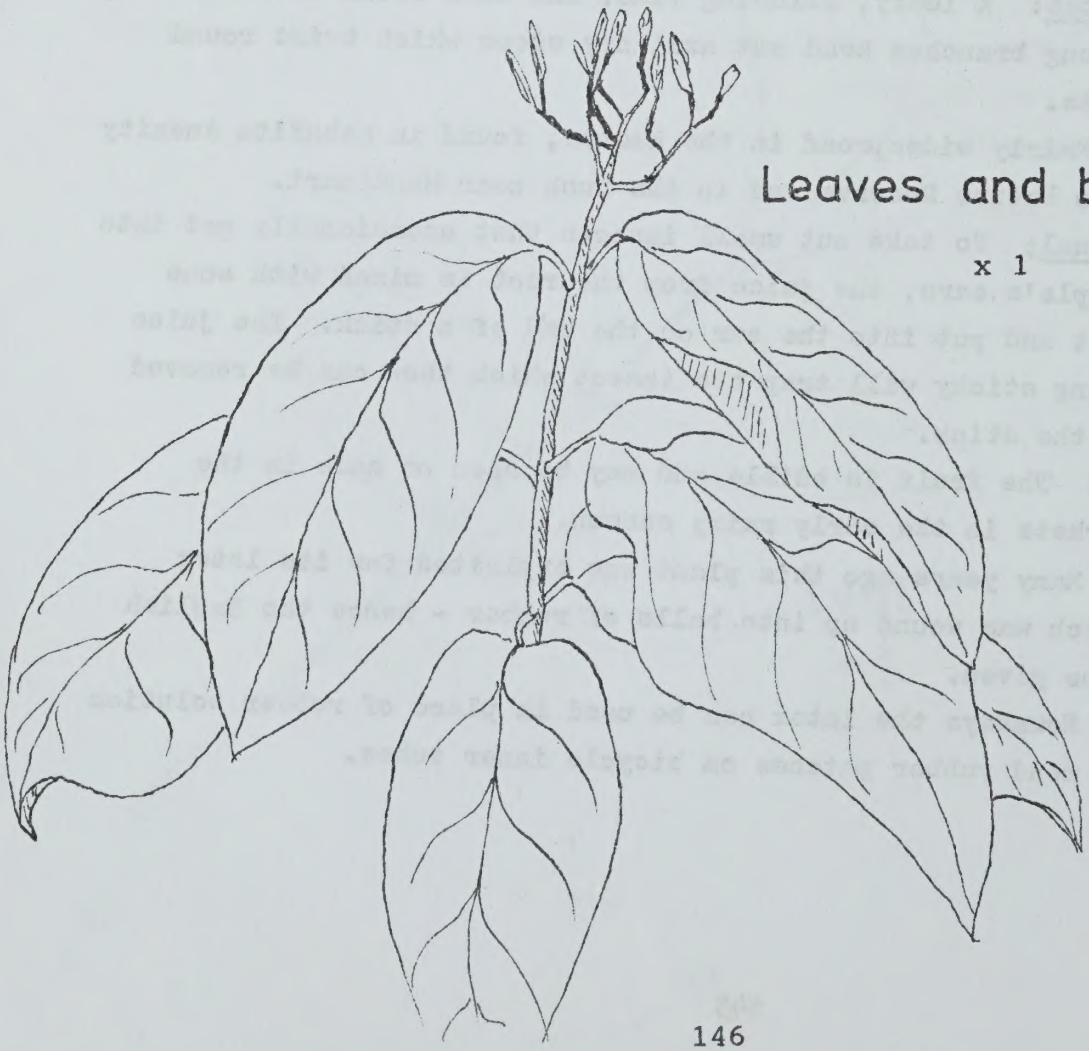
x 1



Fruit

x 1

(immature)



Leaves and buds

x 1

Saba senegalensis (formerly Landolphia senegalensis)

KABA (M): MAD or MADA (W): LARE, PORE LARE (F): FINDIPUFF (J).

Flower: A fairly prolonged flowering season, but seen during April and early May.

Found in terminal clusters of sweet-smelling, white, or yellow-white flowers. Borne on long flower stalks approximately 6 cm long. Corolla lobes overlapping to the left, and glabrous, while dense hairs occur at the throat of the corolla tube where the lobe colour changes to a dense yellow. Corolla tube 2 - 3 cm long with anthers concealed inside it.

Fruit: A large, oval fruit, 10 cm or so long by 7 - 8 cm broad, yellow or yellow-brown when fully ripe in about July and August. Fruit consists of a woody shell a few millimetres thick, and large brown seeds surrounded by a yellow, stringy pulp. These seeds are tightly compacted in the woody shell.

Size and habitat: A climbing vine found growing up trees and over bushes, usually on the edges of woodland. Prefers damp places.

Leaves: Opposite, oblong, 4 - 17 cm long by 2 - 7 cm broad, with seven to fourteen pairs of white, lateral nerves. Petiole 1 - 1.2 cm long, upper surface of the leaf shiny, margin entire.

Occurrence: Found growing throughout the country in low lying, damp, shaded places. Found in Kabafita Amenity Belt and in Abuko Nature Reserve.

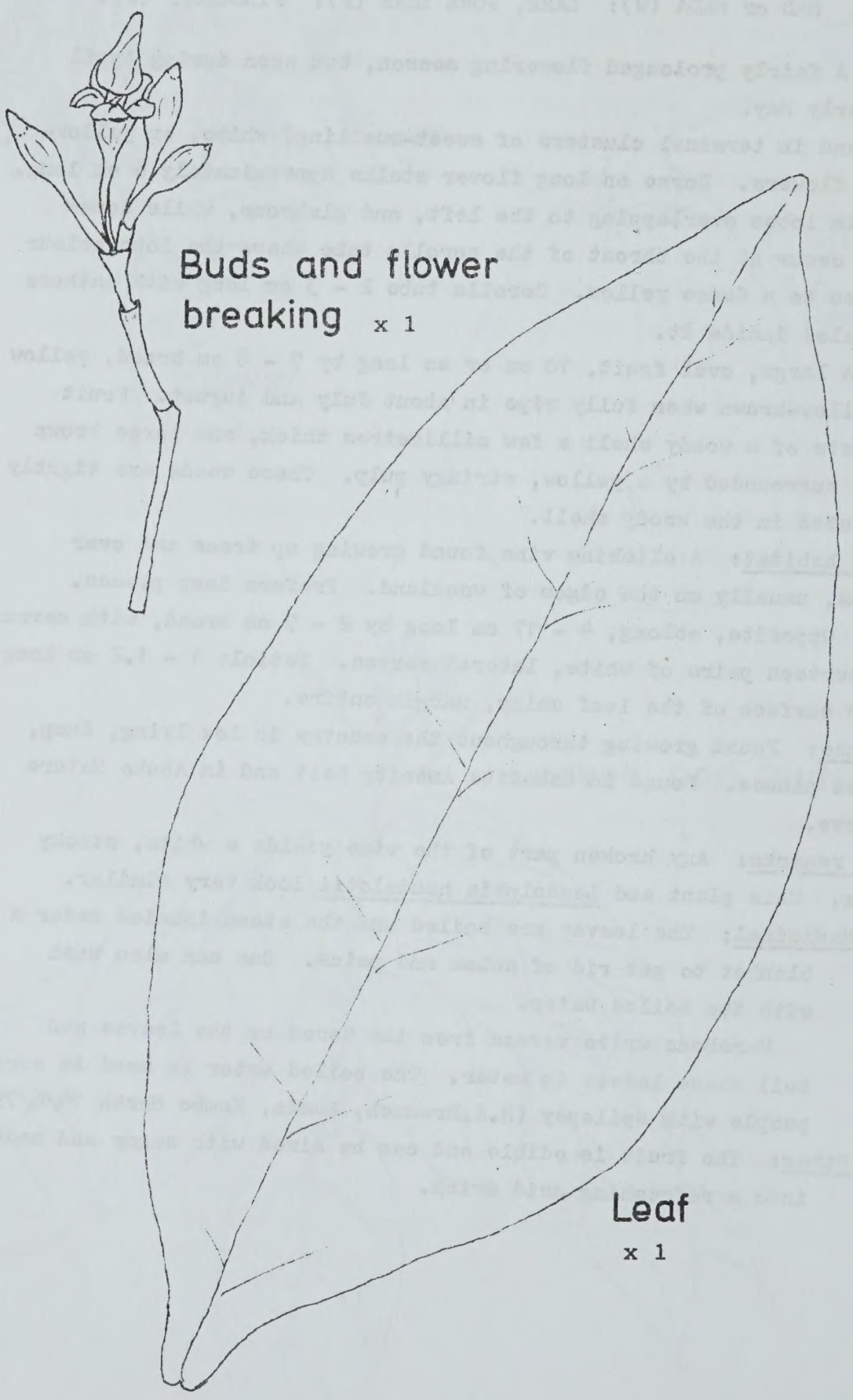
Special remarks: Any broken part of the vine yields a white, sticky latex. This plant and Landolphia heudelotii look very similar.

Uses: Medicinal; The leaves are boiled and the steam inhaled under a blanket to get rid of aches and pains. One can also wash with the boiled water.

Marabous write verses from the Koran on the leaves and boil these leaves in water. The boiled water is used to cure people with epilepsy (M.A.Drammeh, Lamin, Kombo North 14/6/79).

Other: The fruit is edible and can be mixed with sugar and made into a refreshing acid drink.

Voacanga africana



Voacanga africana

WALA YIRO, KUTO? , MANO? (M).

Flower: During late May and early June in the Kombos.

Pale yellow, or cream, flowers with petals overlapping to the left in bud. Waxy petals when just breaking from bud, 1.5 cm long. Florets conical in shape. Just below the corolla lobes is a constriction and the rest of the corolla has waxy, twisted ribs. This structure is usually surrounded by a cup-like calyx having five leaf-like lobes, 5 mm long, which peel back after the corolla drops off. The florets have 1 cm long, smooth stalks and are inserted in pairs. At the join of the two florets there are brown bracts which shrivel and drop off before the flower breaks bud.

Fruit: Not observed in this case, but described as spherical, green or mottled white.

Leaves: Appear in opposite pairs bunched near the ends of fleshy stems, elongate/lanceolate, 16 cm long by 7 cm broad, smooth on both surfaces, twelve pairs of nerves, slightly fleshy, apex may be acuminate and the petiole is usually slightly hairy. The leaves, as well as being opposite, may arise in pairs from a common petiole.

Size and habitat: Found as a tree, with smooth, light-grey bark, 7 - 10 m high, but also has smaller specimens 2 m high in moist places for example just above mangroves.

Occurrence: Found in the bush behind Mandinari village, Kombo North, just above the mangrove, and also reported from near Brikama, Kombo Central.

Special remarks: The slash of the bark yields a running, white latex which does not congeal very quickly. Inner wood yellow.

Uses: Medicinal; To cure constipation, take the juice from one leaf and squeeze it on to ground-nuts and eat them.

The sap from the bark may be soaked up on a piece of cotton. This is put in boiling water, and when cool the water is drunk to clean the stomach and get rid of worms (Bulock village, Foni East).

Take the roots, split and soak them and drink the water in cases of stomach ache (Mandinari, Kombo North, 17/5/79).

Asclepiadaceae

This family has a complicated flower structure on which the family is divided into sub-families and tribes. The sub-families are separated on differences in colour and type of pollen carrier (since this family does not have separated stamens) and the length of the style. The tribes are separated out according to position and attachment of pollen masses and the type of corolla lobes.

Of the thirty-three genera which the 'Flora of West Tropical Africa' lists, only five have been found in The Gambia. These are:

Tribe II -	Asclepiadeae	Oxystelma
		Pergularia
		Calotropis
		Xysmalobium
Tribe IV -	Ceropegieae	Leptadenia

Of these, Calotropis procera and Leptadenia sp. are common sights around the country and they have several medicinal uses.

Characteristics of the family are as follows: petals united at the base, presence of appendages between the petals and the staminal column, follicular fruits, flattened seeds with tufts of silky hairs and opposite leaves without stipules.

Calotropis procera Sodom Apple, Swallow-wort or Auricula Tree.

KIPANPANGO (M): FAFTAN (W): BAMI WANI (J).

Flower: At any time in the dry season.

Fleshy, waxy, purple, five-part flowers arising in clusters from a common stalk. The cluster is surrounded by bracts which easily shrivel and drop off. Each floret has a five-lobed calyx and five purple petals. Between each petal and the style in the centre is a corona lobe. The centre of the flower is composed of a green, five-pointed, flattened style.

Fruit: A large, green, rounded, inflated, membraneous sack or follicle about 12 cm long by 9 cm broad. Inside the sack are seeds attached to dense, white, silky hairs.

Leaves: In opposite, sessile pairs up to 30 cm long by 15.5 cm broad, oblong-ovate to broadly ovate, with rounded auricles at the base of the leaf and very shortly acuminate at the apex. Under side of leaf woolly. Leaves with thick, white mid-ribs having some bristles on the upper surface near the axil.

Size and habitat: A small stout shrub, or small tree, up to about 3 m high associated with areas of former cultivation.

Occurrence: Often found in village compounds, waste sites, or on old garden sites. Fairly common.

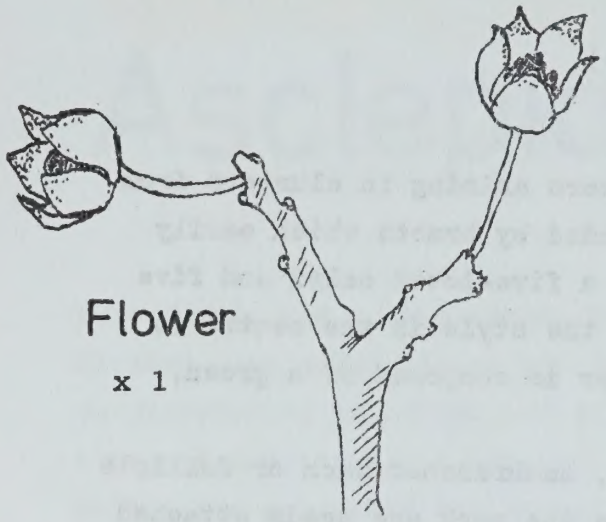
Special remarks: The juice of the plant contains a glycoside of the poisonous alkaloid: Calotropin.

Uses: Medicinal; Take the new leaves, boil in water and at the same time pound some rice, which should also be boiled or roasted. Wrap the cooked rice in the boiled leaves and give to a patient to eat suffering from dysentery (26/11/78).

Take 104 leaves, boil them, and pound some coos at the same time. Eat the pounded coos and drink the juice from the boiled leaves at the same time. Also wash with the juice for one week to help get rid of leprosy (17/5/79).

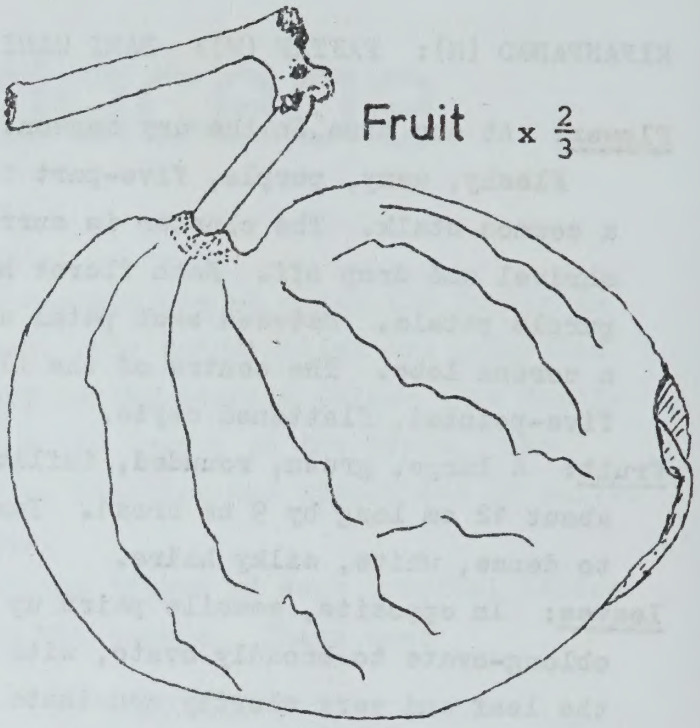
Soak the leaves, with Koranic verses written on them, in water and drink and wash with this water to help cure leprosy (Fadyia Kunda, U.R.D. 24/3/79).

Calotropis procera



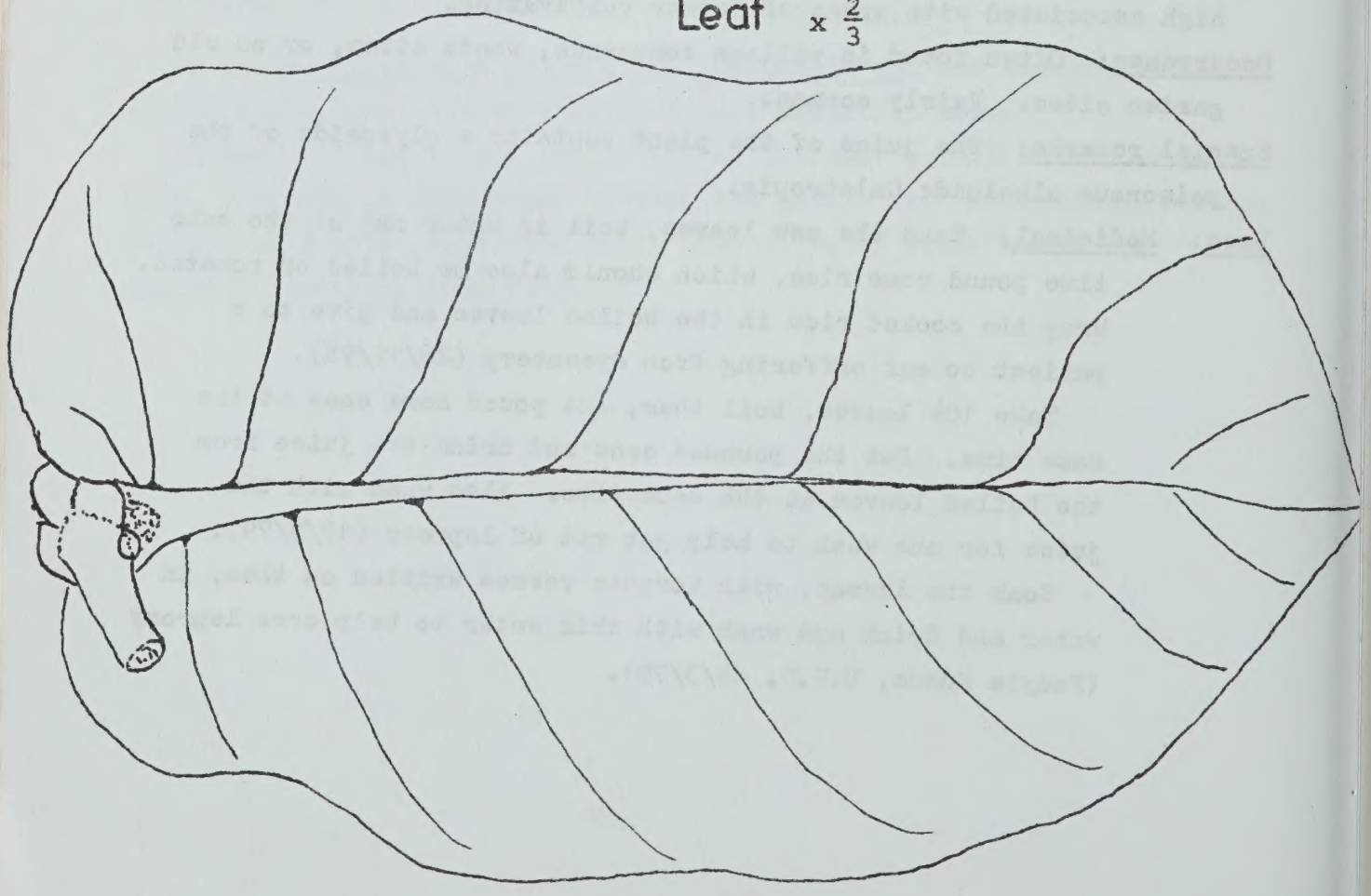
Flower

x 1



Fruit x $\frac{2}{3}$

Leaf x $\frac{2}{3}$

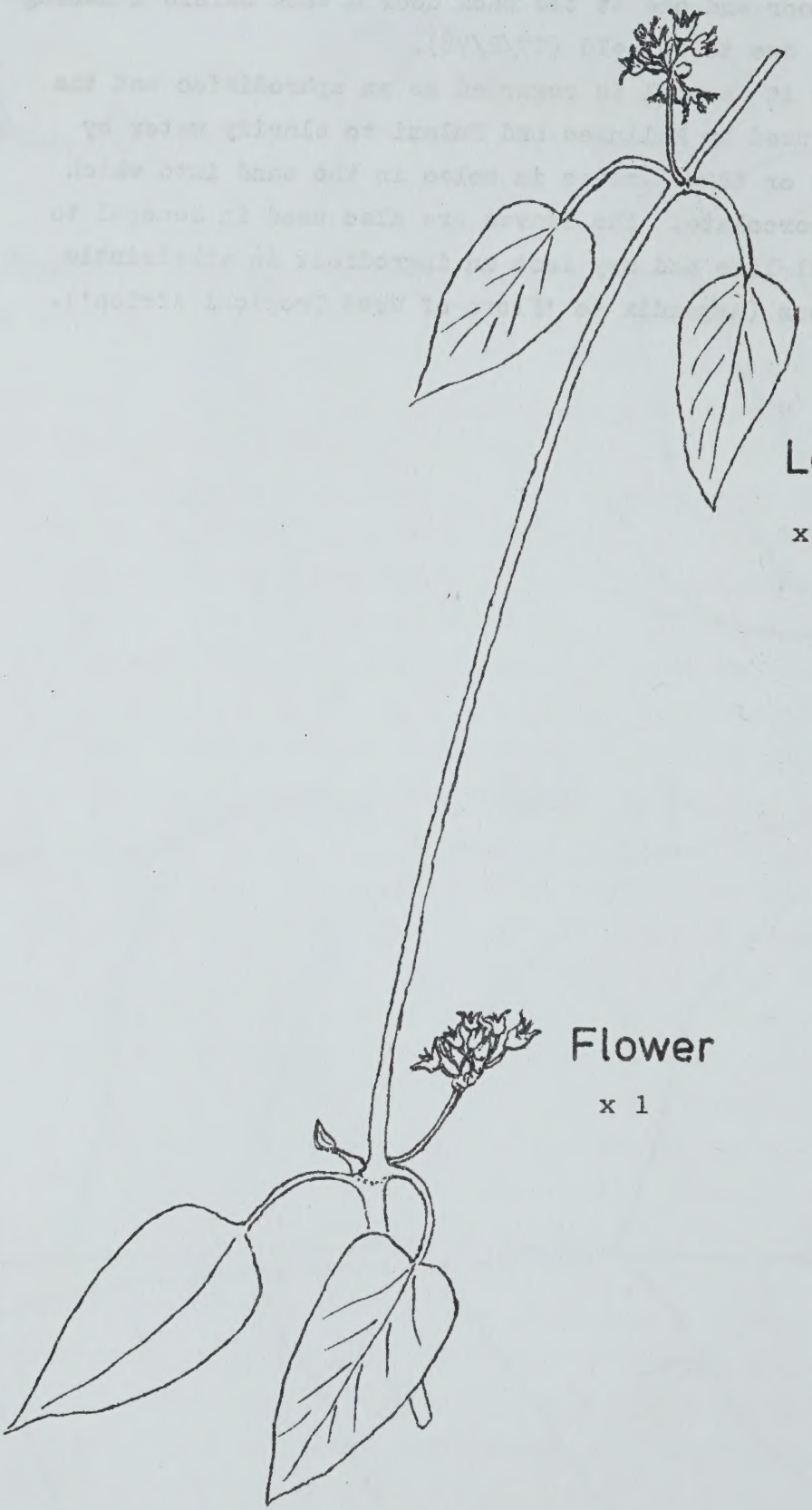


Uses: Other; Dry the leaves, pound them, and use them as snuff.

Cut short lengths of branches from the tree and place one at the front door and one at the back door a week before a naming ceremony is due to be held (17/2/78).

The bark in Senegal is regarded as an aphrodisiac and the leaves are used by Malinkes and Fulani to clarify water by placing two or three leaves in holes in the sand into which water may percolate. The leaves are also used in Senegal to destroy fowl lice and may form an ingredient in athelmintic prescriptions (Appendix to 'Flora of West Tropical Africa').

Leptadenia arborea



Leptadenia arborea

SORA, SAPATEO (M): TALAL, TIARAT (W).

Flower: During late dry season and early wet season both in the Kombos and in McCarthy Island Division.

Flowers occur in lateral clusters at the end of short stalks in alternate positions up the stems. Calyx with five-pointed, green, 2 mm long lobes. Corolla with each lobe long, thin and pale yellow somewhat thickened with prominent white, silky hairs on the upper surface. Lobes recurved outwards. Petals turning from white to yellow with age.

Fruit: An oblong, cone-shaped, woody follicle.

Leaves: Opposite, 5.5 cm long by 3 cm broad, dull, but smooth on both sides, with six pairs of nerves. Petiole 1 cm long, but rather wiry when dry. Leaves taper to a point. Leaf shape very variable, the younger ones generally oval, rounded and widest at the base, while the mature ones are triangular.

Size and habitat: A creeping or climbing woody herb with smooth stems when young. Found in clumps in open, short grass-land or near savanna bushes.

Occurrence: Found in the bush around Saruja, M.I.D. and on the savanna land inside Abuko Nature Reserve.

Uses: Medicinal; When the young shoots are freshly picked, drops of a liquid exude from the ends. This liquid is then inhaled and used as a type of snuff.

The leaves, when pounded, water and salt added, would relieve back pain (Sutukonding, U.R.D. 24/3/79 and Saruja M.I.D. July 1978).

The leaves when boiled and the water taken in, help to improve a mother's milk supply (Saruja, M.I.D. July 1978).

The leaves and roots can be squeezed in water, and this water taken in to cure the inability to urinate properly (Lamin, Kombo North, 11/10/78).

Pound the dry root, add salt and water, and drink to get rid of constipation (Koli Bantang, U.R.D. 24/3/79).

Soak the roots in pounded coos and drink the mixture to clear up gonorrhoea (Kekuta Keita, Mansajang Kunda, U.R.D. 16/3/79).

Rubiaceae

There are ninety-one genera mentioned in the 'Flora of West Tropical Africa' which are divided up into fifteen tribes, according to the arrangement of the corolla lobes and flower heads, the form of the fruit and seeds, the type of ovules, stigma, length of style and anthers, and the nature of the plant (for example, whether tree, shrub or herb).

The tribes with genera noted in The Gambia are listed below:

Tribe II - Gardenieae
Tribe III - Alberteae
Tribe IV - Ixoreae
Tribe V - Hamelieae

(Tribes II to V are treated together in the 'Flora'. Genera in this group which occur in The Gambia are: Macrosphyra, Gardenia, Pouchetia, Pavetta, Ixora and Feretia.)

Tribe VI	- Naucleeae	Mitragyna
		Nauclea
Tribe VIII	- Vanguerieae	Canthium
Tribe X	- Morindeae	Morinda
Tribe XI	- Psychotrieae	Cephaëlis
Tribe XII	- Hedyotideae	Kohautia
		Oldenlandia
		Pentodon
Tribe XIII	- Spermacoceae	Borreria
Tribe XV	- Rubieae	Mitracarpus
		Galium

Macrosphyra longistyla is a common shrub and has very noticeable cream flowers during the late dry season, though it does not seem to be used much.

There are several species of Gardenia lumped together under one local name - TANKANGO (M) - with several local uses. The Gardenias are fairly common in savanna land.

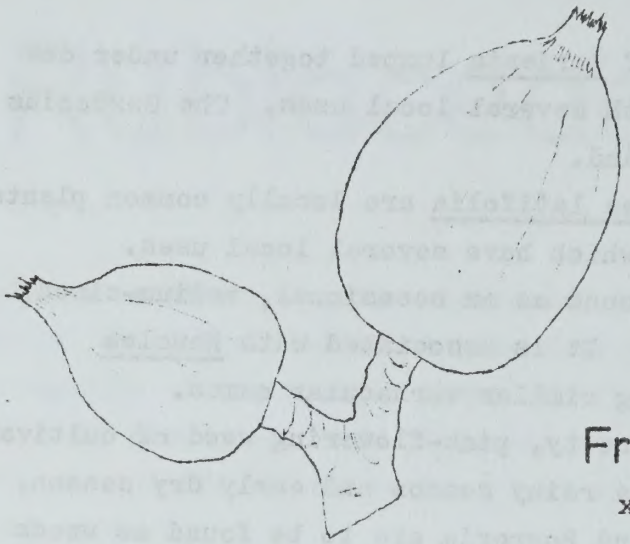
Mitragyna inermis and Nauclea latifolia are locally common plants of wet lands and moist places which have several local uses.

Morinda geminata has been found as an occasional, medium-sized, evergreen tree and as a shrub. It is associated with Nauclea latifolia in Mandinka by having similar vernacular names.

Kohautia grandiflora is a pretty, pink-flowering weed of cultivated fields which blooms in the late rainy season and early dry season, while species of Oldenlandia and Borreria are to be found as weeds in ground-nut and couscous fields in the dry season. None of these weeds seem to be well-known or well-used by local people.

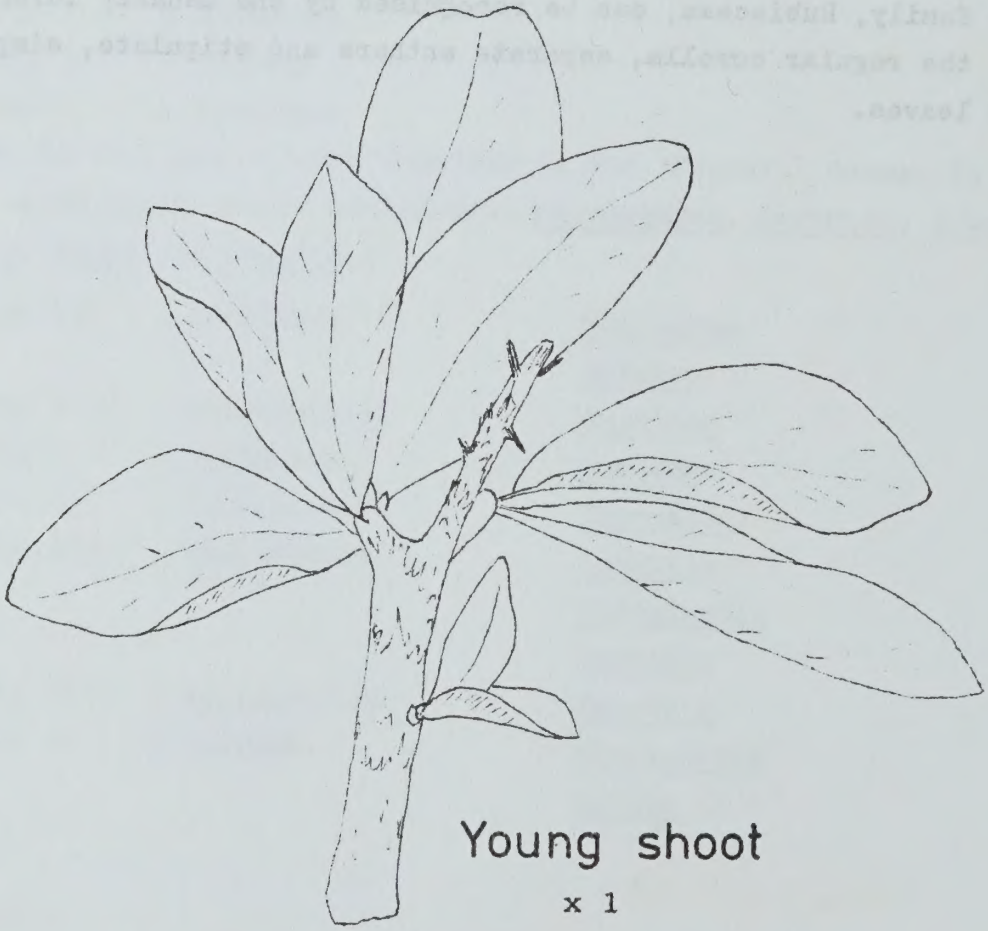
The family, Rubiaceae, can be recognised by the usually inferior ovary, the regular corolla, separate anthers and stipulate, simple, entire leaves.

Gardenia triacantha



Fruits

x 1



Young shoot

x 1

Gardenia triacantha

TANKANGO (also covers other species of Gardenia), BURE (M): BOSSI (W): DINGALI (F): KALENA (J).

Flower: Seen flowering in U.R.D. in late March, in the Fonis in mid-April and in late May in the Kombos.

Flowers white with corolla lobes overlapping. Corolla tube 4 - 6 cm long and lobes 3 - 5 cm long. Calyx lobes linear-oblong, 3 - 15 mm long.

Fruit: A woody ellipsoid or oval ribbed capsule with persistent, woody calyx, 5.5 cm long by 4 cm wide.

Leaves: Stout, erect leaves in whorls of three, obovate, 11 cm long by 4 cm wide, rounded at the apex and tapering at the base. Prominent white, hairy mid-rib which expands into a short petiole at the base. Leaf surface scabrid on the three-lobed stipule collar. The leaves arise from lateral, woody, stumpy branches.

Size and habitat: A occasional, woody, erect, savanna shrub, 4 m high. Pale, smooth bark.

Occurrence: Species found in the bush near Mandinari village and in Kabafita Amenity Belt.

Special remarks: Other species such as G. erubescens may be used for the same bush medicine as G. triacantha.

Uses: Medicinal; Take the leaves or roots, soak in water, and drink to help give relief from skin boils.

Take the bark, pound, and put the powder into a cloth. Soak the cloth and squeeze the juice onto the teeth to help cure toothache.

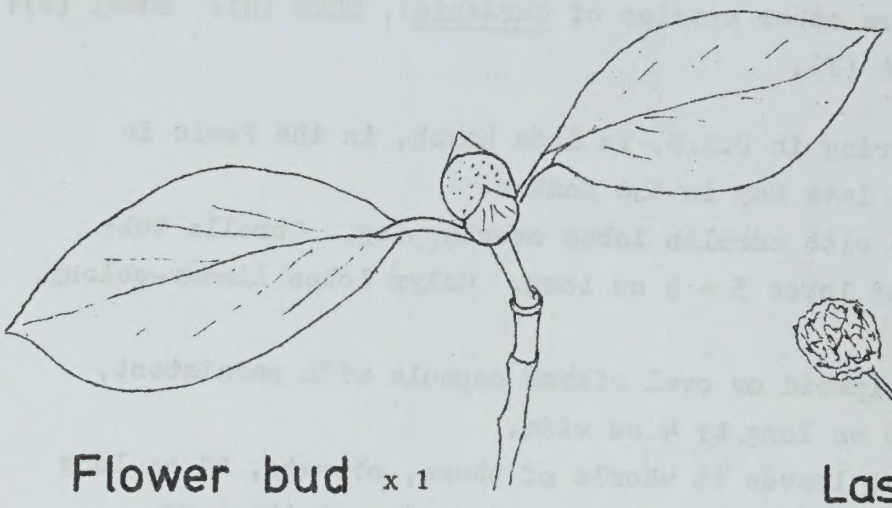
The water from the soaked bark helps to prevent diarrhoea (Dasilame, 28/11/78).

Collect the roots from east and west of the shrub, boil them and use the water to get rid of body troubles and liver problems (Sutukonding, U.R.D. 24/3/79).

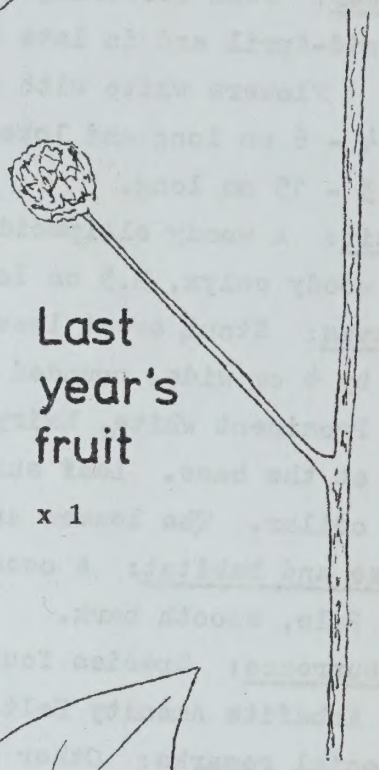
The roots if soaked and the water taken in, would help to secure a baby in a girl who keeps on having miscarriages (Mandinari village, 17/5/79).

Other: The wood is used for fencing because it keeps wolves away !

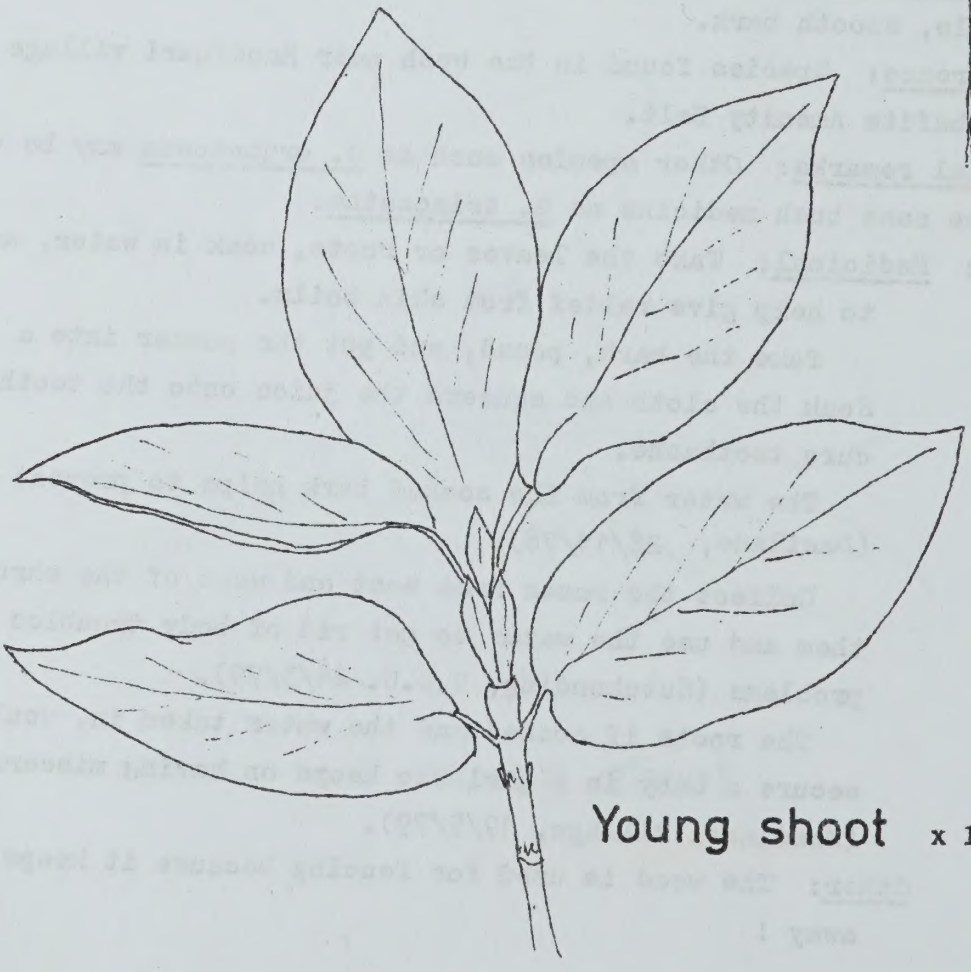
Mitragyna inermis



Flower bud x 1



Last year's fruit x 1



Young shoot x 1

Mitragyna inermis

JUNGO (M): HOS (W): KOILEH (F).

Flower: During the rainy season.

Flowers in terminal and axillary heads, 2 - 2.5 cm diameter. Florets white with anthers protruding from the corolla. The bud emerges from between two leaf-like stipules.

Fruit: Fruit head only about 1.5 cm diameter. Fruit 3 mm long, light brown and split open at the apex to release the seeds.

Leaves: In opposite pairs bunched near the ends of the branches, obovate-elliptic, acute to shortly acuminate, rounded to sub-cordate at the base, 8.5 cm long by 4 cm broad. Leaves with tiny hairs on the mid-rib and nerves on the under surface of the leaf. At the base of each pair of leaves is a pair of thin, membranous stipules, joined in their lower part, up to 2 cm long. These stipules enclose the new buds but turn brown and fall off as the new shoots develop.

Size and habitat: A shrub or low-branching tree, 7 - 12 m high, with grey scaly bark on wet heavy clay in savanna.

Occurrence: A common tree in wet-land areas of M.I.D. with specimens seen on Baboon Island. Not very common in the Kombos, with a specimen found inside Abuko Nature Reserve.

Uses: Medicinal; Boil the leaves, stoop over and inhale the steam. Also drink some of the boiled water to relieve fever. Drink and wash with the water to get rid of body rashes.

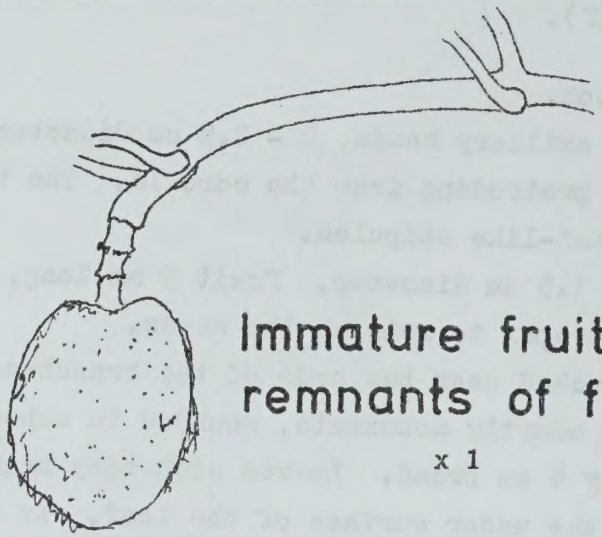
Drink the water of soaked leaves and roots for stomach ache.

Use the leaves as a poultice to reduce fat tissue on the neck and shoulders (Lamin, Kombo North, 11/10/78).

In Senegal and Guinea an infusion of the leaves is given to women newly delivered and is used also externally as a lotion or fumigation for fever, for rheumatic pains, or applied as a dressing for boils and eruptions (Appendix to the 'Flora of West Tropical Africa' page 402).

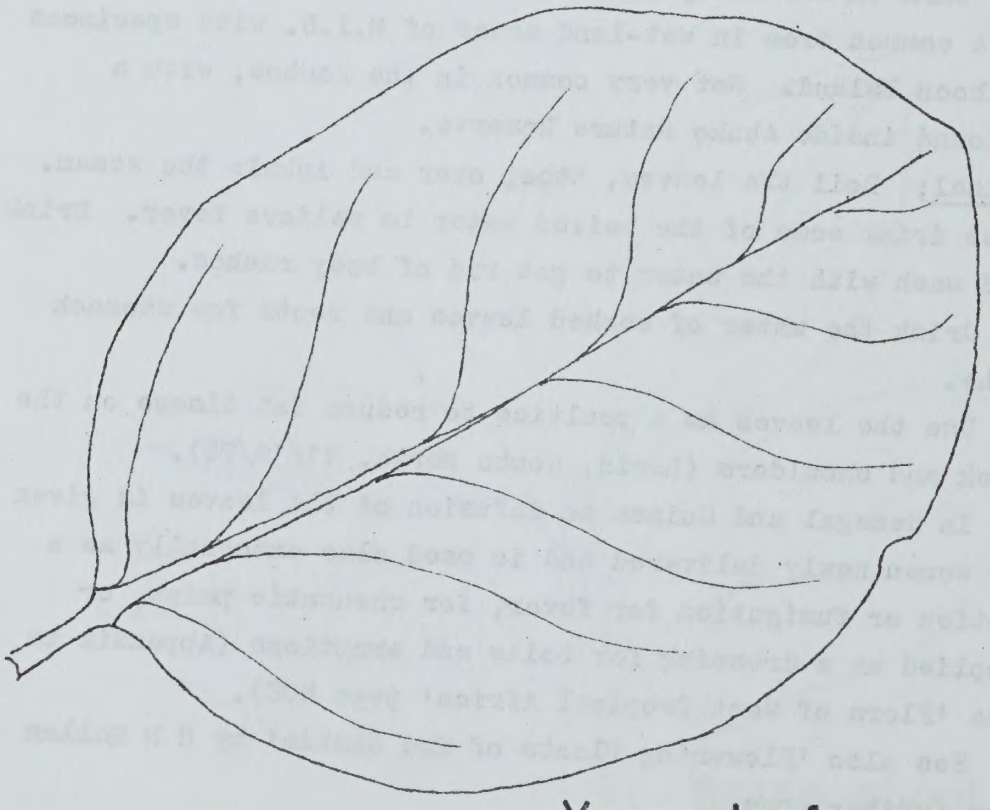
See also 'Flowering Plants of The Gambia' by G M Hallam for further uses.

Nauclea latifolia



Immature fruit with remnants of flowers

x 1



Young leaf x 1

Nauclea latifolia (formerly Sarcocephalus esculentus)

Guinea or African Peach.

BATIO-FORO (lit: Head of the freed-men) (M): NANOK, KOBA (W): DUNDAKE (F).

Flower: In the Kombos during April and May.

Single white or cream flower-heads, 5 - 6 cm in diameter, similar in dimensions to those of NETTO (M), Parkia biglobosa, but the flower is borne on a short stalk. Corolla 8 - 10 mm long, with waxy overlapping lobes, calyx lobes pyramidal, 0.5 - 1 mm long and hairy. Style exerted above corolla lobes. The flower has a sweet, sickly odour.

Fruit: The fruit resembles a large, grey, hard, pitted strawberry which turns red when ripe and is 5 - 6 cm in diameter. Grows at the ends of the branches.

Leaves: In opposite pairs, with triangular stipules between the leaf bases, broadly elliptic to rounded-ovate, 10 - 21 cm long by 7 to 12 cm broad, abruptly acute at apex and rounded at the base. Leaves thick with waxy upper surface and prominent, alternate nerves tinged with red.

Size and habitat: A savanna shrub about 3 m high with scandent or straggling branches and a smooth bark usually found in moist or shaded places.

Occurrence: Widespread over the country. Specimens in the Kombos found in the bush behind Bahama Camp at Yundum, at the bush near Mandinari, Kombo North, and in Kabafita Amenity Belt.

Uses: Medicinal; The branches are used as chew-sticks and have anti-septic properties to relieve toothache and mouth sores.

The bark, in rope form, may be boiled and the water taken in for worms in the stomach.

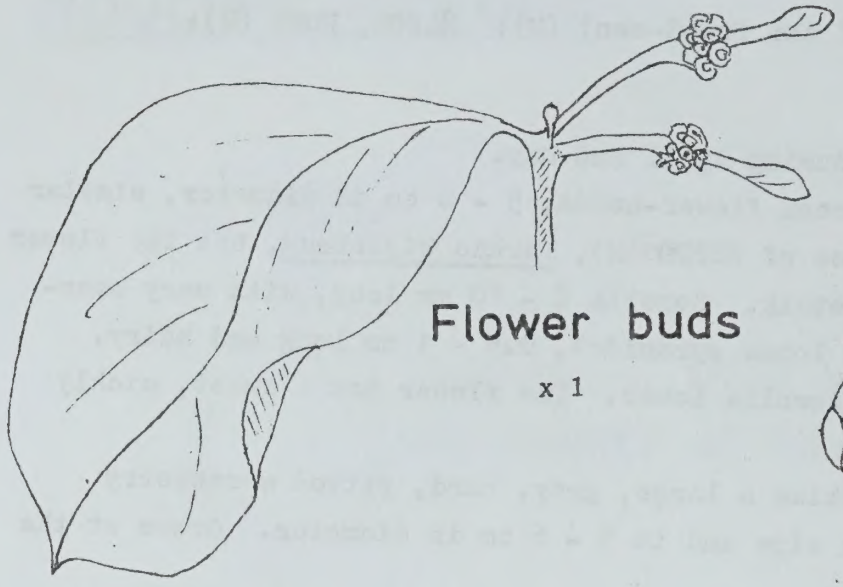
Take the roots, split them up, soak them in water and drink this water to get rid of 'DYNO' (M) (Mampata, U.R.D. 19/3/79 and Sabi village, U.R.D. 19/3/79) and helps to relieve stomach ache (Jar Kunda, U.R.D. 24/3/79).

Boil the roots and take the water in to reduce pain in the pelvic girdle (Sutukonding, U.R.D. 24/3/79).

The roots when used as a prophylactic against malaria are about equivalent to one 'Nivoquin' tablet.

Other: The fruit is edible but when eaten to excess, it acts like an emetic. The fruit, when used with an extract of Acacia arabica and Khaya senegalensis is used to embalm corpses. (Appendix to 'Flora').

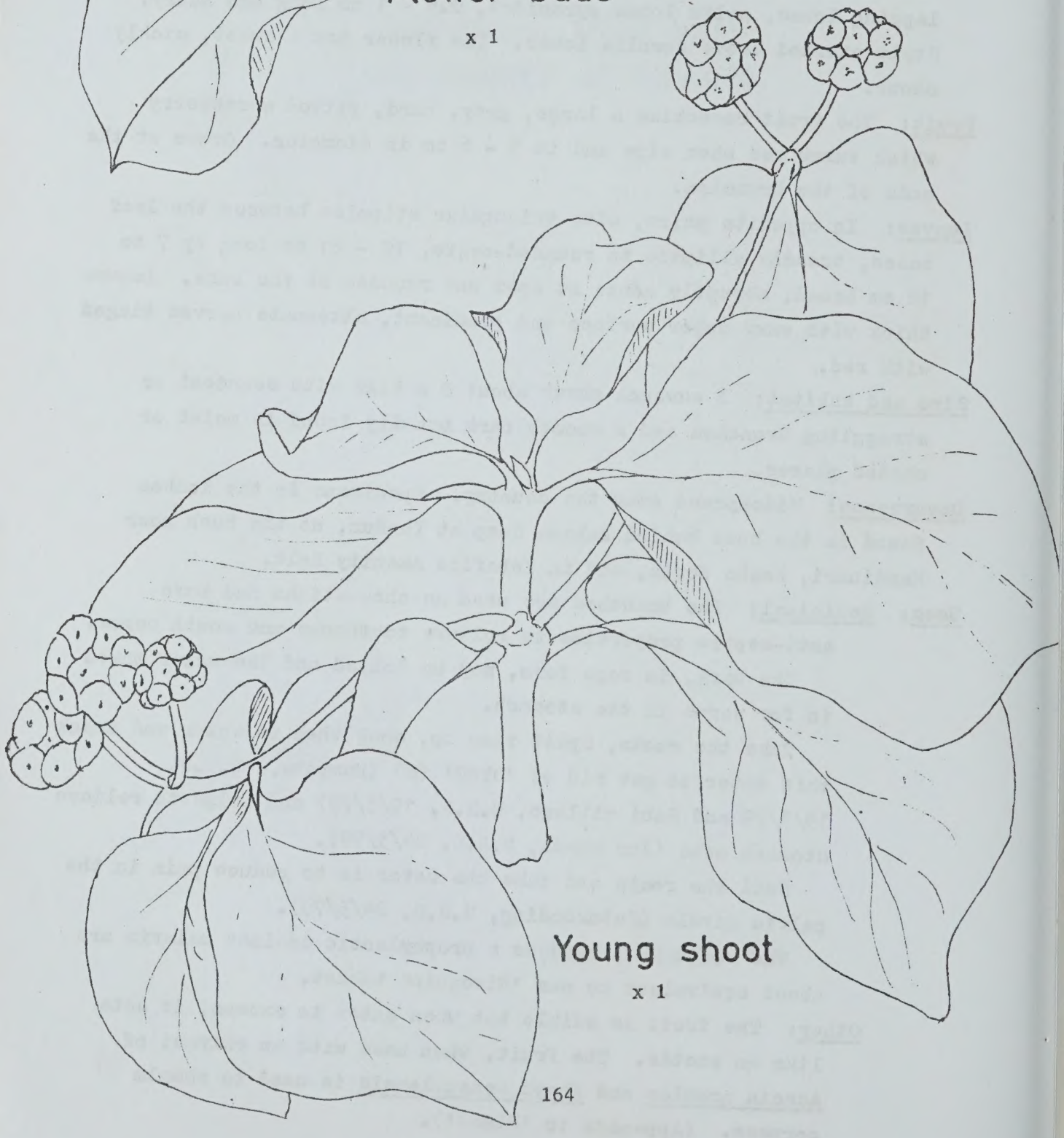
Morinda geminata



Flower buds

x 1

Fruit x 1½



Young shoot

x 1

Morinda geminata Indian Mulberry or Brimstone Bush.

BATIO-JONGO (lit: Head-man of the slaves), BOLONG-KOJIBO (M): NGARBA, GARBA (F).

Flower: During the dry season from January until June in the Kombos. The flowers occur in heads which replace a leaf in an opposite pair of leaves. White florets arise from the terminal heads, corolla 2 - 2.5 cm long, with five petal lobes. Stamens attached to the inside of the corolla and stigma deeply divided. The flower heads are borne on long, stout peduncles.

Fruit: The fruits are fused into angular, rounded heads about 2 cm in diameter with all the seeds pointing inwards.

Leaves: Broadly elliptic, triangular at the base, up to 20 cm long by 12 cm broad, with a 1 cm petiole. Both surfaces of the leaf slightly hairy, but more so along the nerves and the mid-rib. Leaves in opposite pairs, with persistent pairs of brown stipules.

Size and habitat: A small savanna tree or shrub, 5 - 7 m high, with quadrangular branches when young. Mostly associated with regenerating woodland.

Occurrence: Occasional in the bush in the Kombos. Specimen found near Busembala, Kombo North, and near Mandinari village.

Special remarks: Hall mentions that Morinda is a selenium indicator which thrives in soils of high selenium content e.g. in concentrations of 2000 - 6000 ppm. Such plants have the ability to convert inorganic selenium into the organic form. On the death of such plants, the organic form can be readily taken up by other plants and so produce toxicity in animals which feed on them.

Uses: Medicinal; Boil the leaves and give the water to women who have just given birth. This will increase their blood (Jar Kunda, U.R.D. 24/3/79).

Compositae

Twenty or so of the eighty-four genera mentioned in the 'Flora of West Tropical Africa' have been recorded as being present in The Gambia. However, just by looking around the author's garden at Yundum, it was clear that some of the weeds present belonged to the Compositae though they had not been recorded as being in The Gambia.

Two plants described in detail in the text are species of Vernonia both of which have bitter leaves and roots. These are used in local medicine.

Many of the Compositae in The Gambia are annual herbs and compound weeds which are not put to any recognisable use.

The genera have been classed in numbered tribes which are separated upon differences in flower and leaf characteristics. The flowers of this family are typically crowded into heads (capitula), surrounded by an involucre of one or more series of bracts. The heads may be composed of florets of one or two kinds. The outer florets are often ligulate or ray-florets, and the inner ones tubular or disk-florets. The calyx, if present, is reduced to a pappus of persistent bristly hairs or scales. The fruit is a sessile achene which may sometimes be beaked.

The genera which occur in The Gambia are as follows:

Tribe I	- Heliantheae	Syndrella
		Tridax
		Coreopsis
		Chrysanthellum
		Aspilia
		Melanthera
		Eclipta
		Verbesina
		Acanthospermum
Tribe IV	- Astereae	Ceruana
Tribe V	- Inuleae	Vicoa
		Blumea
		Laggera
		Sphaeranthus
Tribe VII	- Vernonieae	Elephantopus
		Herderia
		Vernonia
		Ethulia
		Mikania
		Ageratum
Tribe XII	- Cynareae	Centaurea

Vernonia colourata Bitter Leaf

YIRI KUNANGO, JAMBA KUNANGO (M).

Flower: During January in the Kombos.
White or cream flowers in terminal panicles. Each floret is 10 - 12 mm in diameter and has three rows of involucral, hairy bracts. Each floret has a ring of brush-like, cream coloured pappus hairs with a five-lobed corolla arising above it. Corolla lobes pointed, style feathery. Flowers have a sweet, sickly scent.

Fruit: A brown achene, 3 mm long, appearing amongst the pappus hairs once the corolla has fallen off.

Leaves: Alternate, cuneate, 9.5 cm long by 5 cm wide, petiole long (up to 2 cm), margin entire and undulate. Leaves densely hairy on the under side. Mid-rib and young branches covered with a brown, furry indumentum.

Size and habitat: A small tree or shrub, 3 - 5 m high, with a smooth, light grey bark. The shrub is usually found in moist or wooded places.

Occurrence: Found in Kabafita Amenity Belt and in the bush behind Mandinari village near the mangroves.

Special remarks: The leaf has a very bitter taste.

Uses: Medicinal; To ease the pain during the abortion of a child, the leaves are boiled and the water taken in.

Vernonia nigritiana

JUBU JAMBA (M): BATIENTIOR (W): DONONTURU.

Flower: During the late rains and early dry season.

Clustered heads of red flowers in terminal and axillary positions. Florets heads 3 - 4 cm long and 4 cm diameter with five or six whorls of scabrid bracts below the head. The innermost bracts are longest, 2.5 - 3 cm, tinged with scarlet and crimson on their inside face. The outside bracts (which could be mistaken for petals) are cream coloured.

Fruit: Typical achenes about half the length of the inner bracts. Achenes covered with fine hairs.

Leaves: Obovate-lanceolate or obovate, 15 cm long by 5 - 6 cm broad, scabrid on both surfaces (like sandpaper). Leaves with a wavy, toothed margin having prominent reticulate venation.

Size and habitat: An erect, scabrid herb up to 30 cm high, found in long grass and moist or shaded places. Stems very tough and wiry, woolly at their bases.

Occurrence: Found in small shrub savanna at Kabafita Amenity Belt and in lightly wooded areas in Kombo South.

Uses: Medicinal; The very bitter roots are soaked over-night and the water taken in to get rid of worms in the stomach.

The roots are boiled and the water taken in to help cure a sickness which makes a man pass blood instead of water when urinating (Manduwar, Kombo Central, 26/11/78).

The leaves are dried, pounded, and scattered over the dying embers of a fire. Stand over the fire with a blanket over the head to inhale the smoke. With God's help, this would give relief from any unknown sickness (Jiboro, Kombo Central, 30/11/78).

Solanaceae

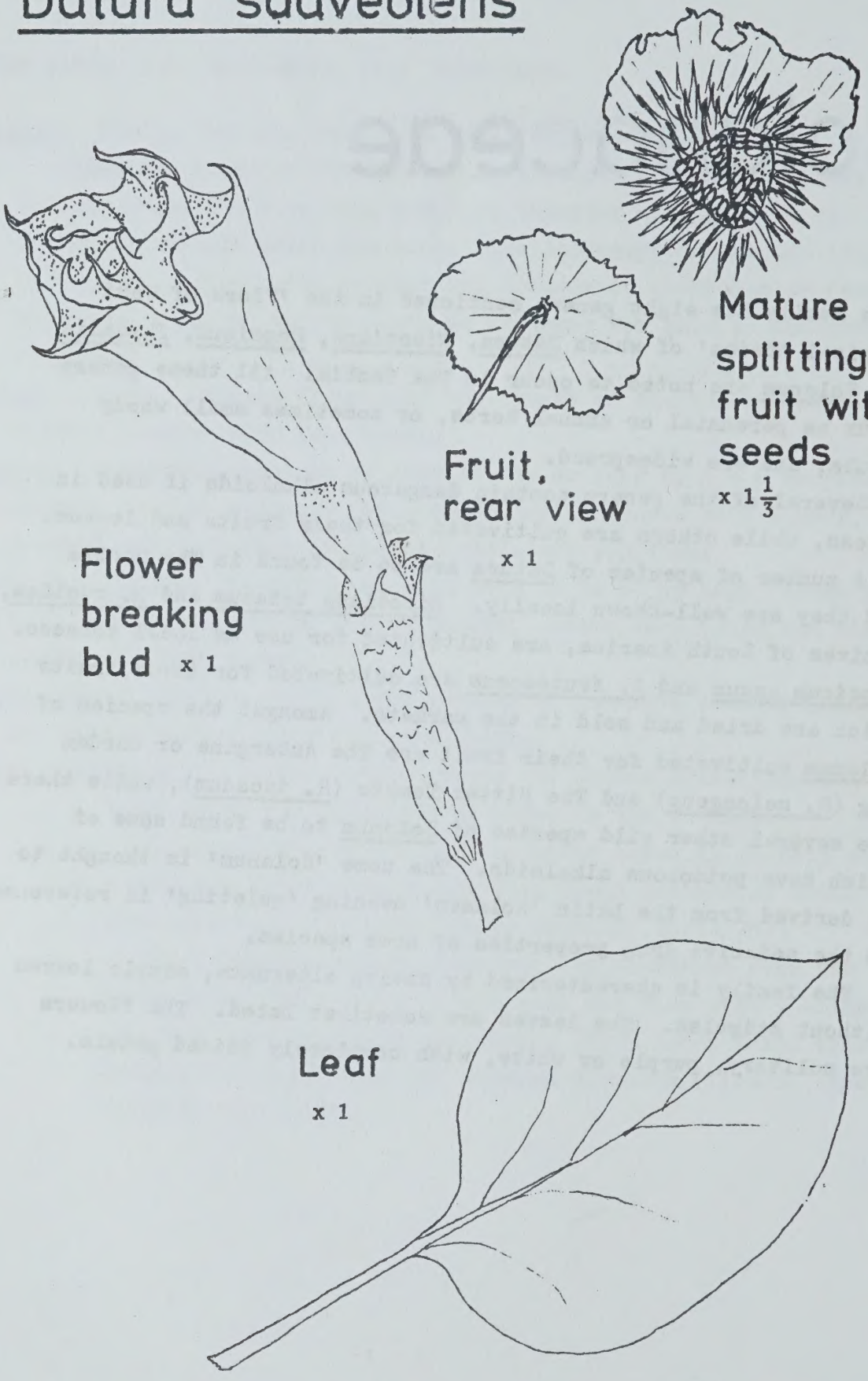
This family has eight genera mentioned in the 'Flora of West Tropical Africa' of which Datura, Nicotiana, Capsicum, Physalis and Solanum are noted to occur in The Gambia. All these genera occur as perennial or annual herbs, or sometimes small woody shrubs, and are widespread.

Several of the genera contain dangerous alkaloids if used in excess, while others are cultivated for their fruits and leaves.

A number of species of Datura are to be found in The Gambia and they are well-known locally. Nicotiana tabacum and N. rustica, natives of South America, are cultivated for use as local tobacco. Capsicum annum and C. frutescens are cultivated for their fruits which are dried and sold in the markets. Amongst the species of Solanum cultivated for their fruit are The Aubergine or Garden Egg (S. melongena) and The Bitter Tomato (S. incanum), while there are several other wild species of Solanum to be found some of which have poisonous alkaloids. The name 'Solanum' is thought to be derived from the Latin 'solamen' meaning 'quieting' in reference to the sedative drug properties of some species.

The family is characterized by having alternate, simple leaves without stipules. The leaves are sometimes lobed. The flowers are solitary, purple or white, with completely joined petals.

Datura suaveolens



Mature splitting fruit with seeds x $1\frac{1}{3}$

Fruit, rear view x 1

Flower breaking bud x 1

Leaf x 1

Datura suaveolens Moonflower

KUBEJARRO (M,W) (covers several species of Datura; lit. means 'cure-all'): MERENG (F).

Flower: Found in bloom in May and June in the Kombos.
Large single white florets near the ends of the branches. Corolla nearly 14 cm long, cream or white. The florets in this species have double corollas, each of the lobes having a small, green, incurved appendage. Stamens and style white, with a yellow, two-lipped stigma. Calyx tube puffy, 5.5 - 6 cm long, with five broad teeth or lobes. Floret has a vague scent.

Fruit: A four-lobed, spherical capsule, 2 cm in diameter. Capsule covered with short spines and light-brown when ripe, splitting on the bush. Seeds light brown, crescent-shaped. Irregularly fluted collar of the residual calyx under the capsule.

Leaves: Alternate, simple, entire, 10 cm long by 6 cm broad, ovate-triangular gradually tapering to a point. Very unequal at the base. Petiole up to 4 cm long. Lamina and petiole hardly hairy at all.

Size and habitat: A small, woody, much branched shrub, 1 - 1.5 m high, with weak stem. Usually connected with habitation.

Occurrence: Large specimen found in a backyard at Banjulunding, Kombo North, but also on waste places and along paths.

Special remarks: Though not noted in The Gambia by the 'Flora', D. innoxia, D. metel and D. stramonium have all been seen by the author in different parts of the country.

Uses: Medicinal; The plant when used in small quantities would be good for all ailments. But people tend to use too much of the plant, sometimes intentionally, whereby it gives nasty side-effects such as hallucinations (See also 'Flowering plants of The Gambia' by G M Hallam).

Other: Where a crime, such as stealing, has been committed, marabou men would give an infusion of the plant to the accused persons to find out the truth.

Solanum indicum Bush tomato

SULU JATO (lit: Hyena's Bitter Tomato), MANSARIN NYATEILA (lit: The Prince who causes blindness) (M): DIAKHATU (W).

Flower: During later dry season.

Typical five-part flower, calyx with unequal teeth, about 0.5 cm long. Corolla deep purple. Stamens double, bright yellow, about 0.5 cm long.

Fruit: Globose berries 3 cm diameter, similar to the cultivated tomato but with a fleshy calyx. Fruits are pale green, marked with dark green stripes, but they turn yellow on drying. Peduncles 2.5 - 3 cm long, very prickly. Calyx enlarges with development of the fruit, each calyx lobe having a mid-rib with a row of thorns along it.

Leaves: Leaves opposite, irregularly and deeply lobed, the larger lobes 2 - 3 cm long, scabrid on both surfaces, with sharp thorns arising from the mid-rib and nerves on both surfaces. Leaves about 5 - 6 cm long.

Size and habitat: A small, armed herb growing to 30 cm high (when found by the author) on cultivated land and in woodland savanna.

Occurrence: Found in Kabafita Amenity Belt and in a field near Gunjur.

Special remarks: S. indicum has a number of subspecies and varieties which are difficult to identify accurately.

Uses: Medicinal; Boil the roots and wash the eyes with this water to get rid of cataracts and whiteness of the eye.

Apply the juice from the fruit in the mouth to clear up toothache.

Also apply this juice to sores or boils on the arms and legs (Dasilame, Kombo Central, 28/11/78).

Bignoniaceae

This family is represented by only six genera in the 'Flora of West Tropical Africa' three of which have been found in The Gambia. A small group, but nevertheless containing some trees which display large, bold flowers.

Kigelia africana, The Sausage Tree, produces remarkable, pendant fruit which are said to be used medicinally (though this is not widely known), while Newbouldia laevis is a well-known bush medicine.

The three genera in The Gambia are: Kigelia, Stereospermum and Newbouldia.

The impressive flowers of the Bignoniaceae family make them desirable as garden plants. The following have been found growing in The Gambia. Spathodea campanulata, The African Tulip Tree, is a large tree with brilliant orange clusters of flowers growing on the ends of branches. A specimen is known in McCarthy Square and another beside the road just by the Banjul Cemetery. Introduced species include: Crescentia cujete (from tropical America), Jacaranda mimosifolia (from North West Argentine), Pyrostegia venusta (from Brazil), Tabebuia rosea (from Central America) and Tecoma stans (from Central America).

Kigelia africana The Sausage Tree

SUNJU-BABA, JAMBAL (M): DIAMBAL (W).

Flower: During March and May in the Kombos.

Flowers produced in long, drooping panicles up to 30 cm long. Each floret is 9 - 10 cm long, but often appears to be half faded. The corolla sits in a green, cup-like calyx which is composed of five fused lobes and has green warts on the outside. The exterior of the corolla is highly ribbed and pale purple-brown, while the interior is vivid crimson or plum-red with yellow and orange blotches and streaks. Stamens in two pairs with arrow-shaped anthers. Style 6 cm long, with a two-lipped stigma.

Fruit: A cylindrical, long, heavy fruit with thick, leathery skin. Fruit 21.5 cm long by 8 cm broad. Remains of calyx fused on to the base of the fruit. Fruit laterally flattened.

Leaves: Imparipinnate with four pairs of leaflets, each 15 - 16 cm long by 7 cm broad, elliptic, elliptic-oblong to oblong-lanceolate. Margin with sparsely spaced teeth and nine pairs of lateral nerves on each leaflet.

Size and habitat: A medium-sized tree, 7 - 17 m high, found in moist places usually near water.

Occurrence: Scattered specimens found in the Kombos, at Mandinari wharf, Kombo North, at Busembala gardens and on the New Cape Road near Radio Gambia.

Uses: Medicinal; A little of the inner flesh of the fruit is cut and cooked with meat to get rid of serious stomach ache (Famara Sonko, Mandinari wharf, 14/5/79).

Newbouldia laevis

KUNJUNBURUNG (M): GAM, NGAM (W): SUKUNDE (F).

Flower: During March, April and May.

Flowers growing in dense clusters of terminal spikes. Corolla 6 cm long, purple with deeper coloured spots and streaks. Calyx 2.5 cm long, split down one side forming a hood. Stamens four, with white, arrow-shaped anthers; stigma white, two-lipped. Flowers appear when the plant is leafless, but flowering continues as the new leaves come.

Fruit: A long, curved pod up to 30 cm long, laterally flattened. The pod turns crimson or plum-red when ripe and has small warts on the otherwise smooth skin. The winged seeds overlap one another, sitting in rows either side of the central mid-rib. The seeds lie in the middle of the membranous wing.

Leaves: Imparipinnate, with four pairs of leaflets. Each leaflet 16 - 17 cm long by 6 cm broad, oblanceolate to broadly elliptic, having a toothed margin and a tapering apex. The mid-rib has six alternate nerves branching off it. Leaves dull waxy on the upper surface.

Size and habitat: Can vary from a low shrub 1 - 2 m high to a tall slender tree 7 - 10 m high. Found in open savanna and in savanna woodland.

Occurrence: A widespread shrub found in the bush and in compound gardens as a live fence. An example of this can be seen in a compound with a fence parallel to the road at Tabo Koto, Kombo St. Mary.

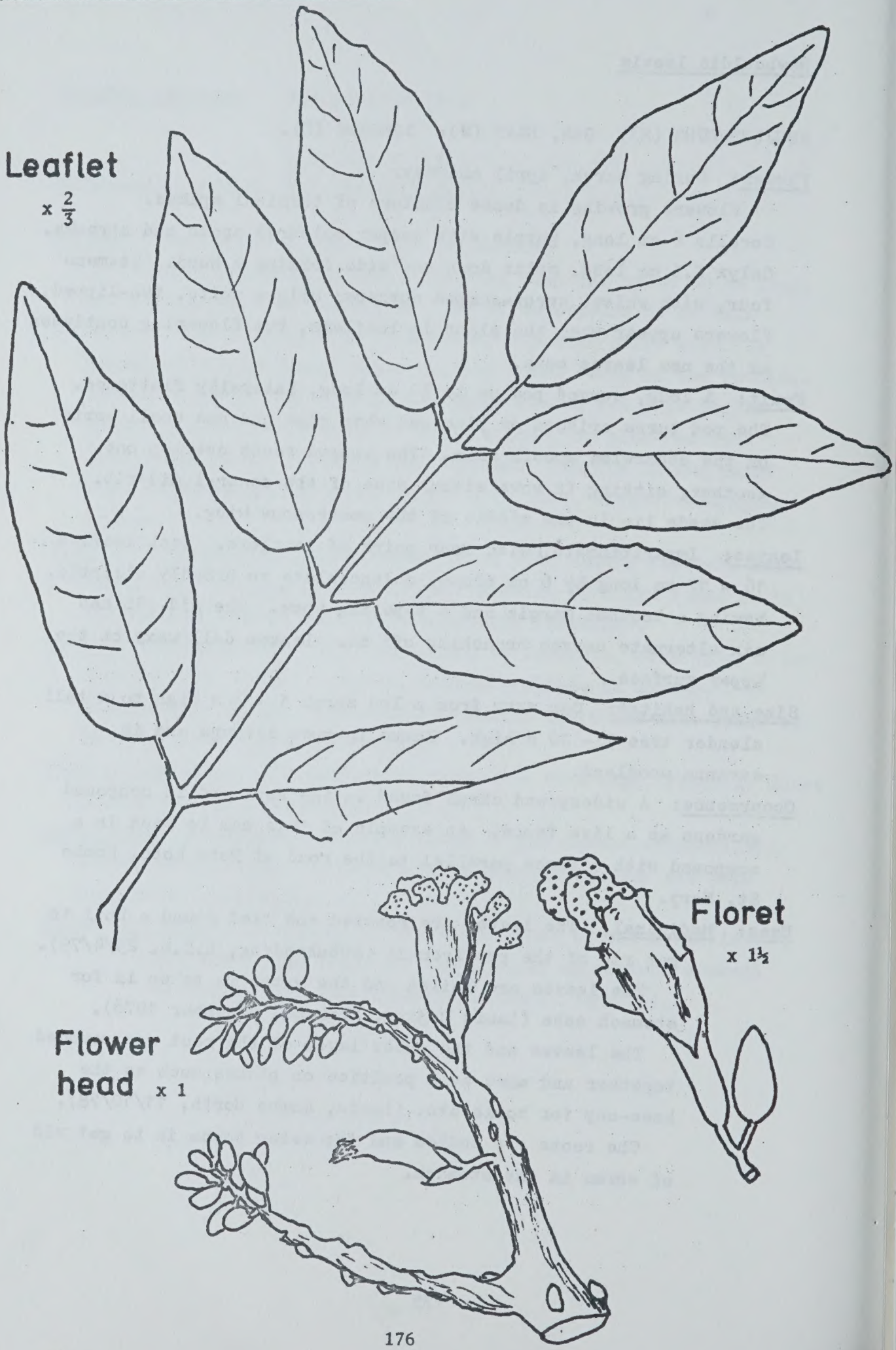
Uses: Medicinal; The leaves are roasted and tied round a boil to get rid of the pus from it (Sutukonding, U.R.D. 23/4/79).

The leaves are boiled and the water is taken in for stomach ache (Lamin Bojang, Brikama, December 1978).

The leaves and the outer layer of the root are pounded together and used as a poultice on places such as the knee-cap for boils etc. (Lamin, Kombo North, 11/10/78).

The roots are boiled and the water taken in to get rid of worms in the stomach.

Newbouldia laevis



Uses: Medicinal continued; The roots are pounded (but not to a powder) and warmed in hot water and pressed on the body as a poultice to areas of internal pain caused by 'DYNO' (M) (this remedy was repeated several times in different places). The warmed poultice would also help the fracture of a broken bone to heal better (Lamin Bojang, Brikama, December 1978).

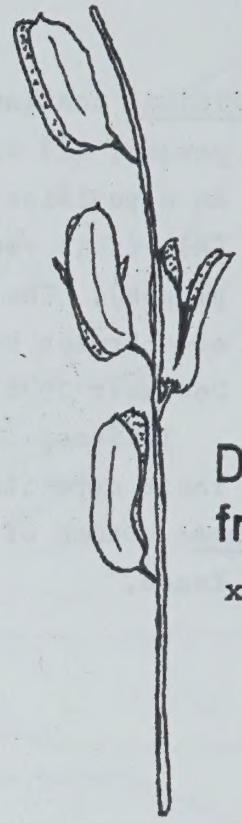
In Senegal, the bark is given to horses to improve their appetite.

Other: Stems of the plant are grown in some places as a live fence.

Sesamum radiatum

Flower

x 1



Dry fruit

x $\frac{2}{3}$

Young stem

x 1

Pedaliaceae

A family with five genera mentioned in the 'Flora of West Tropical Africa', of which one is noted to occur in The Gambia though other of the genera do occur in neighbouring regions. The family consists of annual or perennial herbs.

Sesamum radiatum Wild Beniseed

BENO, BENEFING-JONGO (M): BENE (W).

Flower: During the late rainy season unless artificially cultivated. Single florets, 4.5 cm long. Calyx with five, pointed, hairy, unequal lobes, 6 mm long. Ovary hairy and style with an unequal, two-lipped stigma. Hairy corolla tube, purple, with dots and streaks down the inside of the tube; corolla with a protruding, pale yellow lower lobe, and a narrow, curved base.

Fruit: An elongated, four-lobed, hairy capsule with a double beak, 3 cm long by 1 cm broad. Mature capsule splits on the plant. Seeds black and angular.

Leaves: In opposite, or sub-opposite, pairs varying from obovate-elliptic (lower) to narrowly oblong (upper), 8.5 cm long by 4 cm broad. Leaves softly hairy on both sides, slightly unequal at the base and acuminate at the apex. Margin of the leaf with one or two teeth near the base, petiole 2 cm long. New pairs of leaves sprout in the axils of mature ones.

Size and habitat: A hairy, erect herb, 0.5 - 1 m high, cultivated for its seed. Found in open savanna, compounds and moist places.

Occurrence: In compounds at Talingding Kunda and Banjulunding.

Special remarks: The plant has a distinctive pair of brown glands either side of each leaf axil.

Uses: Medicinal; Take the whole plant, soak in water and drink this to get rid of swollen diseases (Sutukonding, U.R.D. 24/3/79).

Seeds put into a small bottle and tied on to a rope of a juju for prevention of transmittable diseases (Pa Kwi, Serrekunda, 4/12/78).

Other: The seeds are dried, boiled, and sold in the market at Banjul in compressed balls.

Verbenaceae

There are ten genera mentioned in the 'Flora of West Tropical Africa', of which Stachytarpheta, Lantana, Lippia, Clerodendrum and Vitex are noted to occur in The Gambia.

Lantana camara has become a troublesome weed in The Gambia and according to Hall, it may cause severe jaundice and dermatitis if accidentally ingested by cattle.

Both Lippia multiflora and L. chevalieri occur as rainy season weeds. They are used widely to make a local fragrant tea.

The Clerodendrum species have attractive flowers. Thus they are much prized as ornamental garden shrubs.

Several species of Vitex are to be found in this country, the best known being V. doniana which produces edible fruits and is well known for its medicinal uses.

Gmelina arborea is an introduced tree, originally from South East Asia, which is being planted widely in The Gambia as part of the Sahelian Re-afforestation Programme. Its quick-growing nature makes it suitable for timber production for fencing and construction.

Another introduced tree, Tectona grandis, from Asia, has been planted on a small scale mainly in trial plots.

Lippia chevalieri Gambian Tea Bush

SISILING NYAMO (M): MBORMBOR (W): BAHE-BAHE (F).

Flower: During late rainy season and early dry season.

Flower-heads in narrow, elongate, terminal, and axillary spikes. Tiny white florets with yellow throats set in amongst bracts with abrupt tips. The florets are four-lobed and irregular with the stamens attached to the corolla.

Fruit: Minute, hairy fruits which develop in the flower-heads.

Leaves: In whorls of four, elliptic, about 11 cm long by 5 cm wide, acute at the apex and with a toothed margin. Scabrid on both surfaces and rough hairs on the mid-rib and the quadrangular stems.

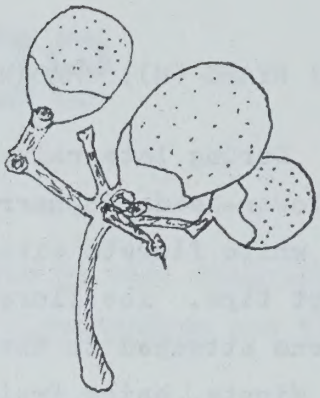
Size and habitat: An erect, aromatic undershrub about 1 m high, growing in woodlands and fields.

Occurrence: Found at Kabafita Amenity Belt and is widespread over the country.

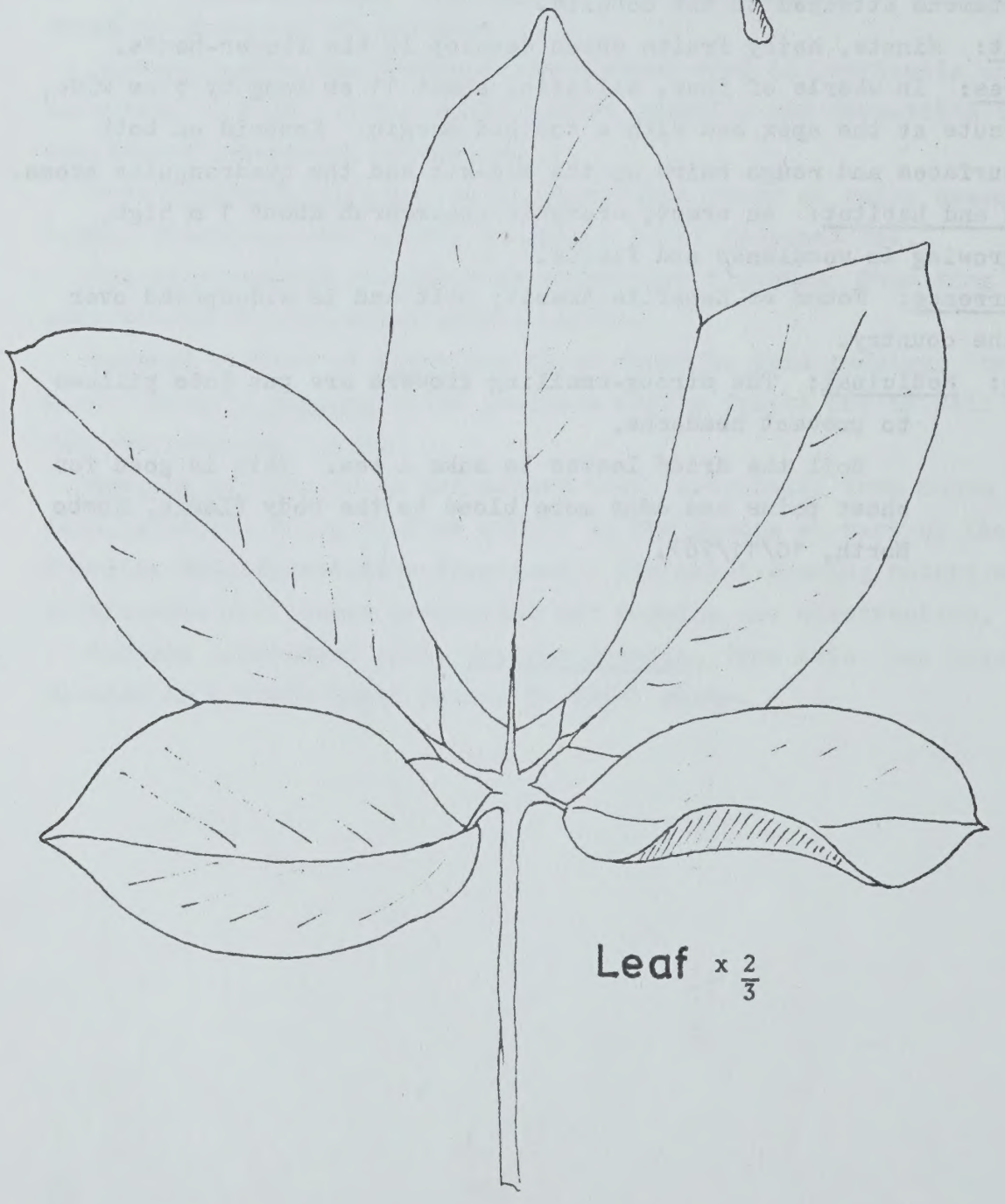
Uses: Medicinal; The strong-smelling flowers are put into pillows to prevent headache.

Boil the dried leaves to make a tea. This is good for chest pains and adds more blood to the body (Lamin, Kombo North, 10/11/78).

Vitex doniana



Immature fruit x 1



Leaf x $\frac{2}{3}$

Vitex doniana Black Plum
(Formerly V. cuneata or V. cienkowskii)

KUTUFINGO (M): HEUL (W).

Flower: During April and May in the Kombos.

Inflorescence tightly packed or congested on a stalk about 3 cm long. Florets subtended by 5 mm bracts which soon fall off. Calyx 3 - 4 mm long, corolla with five unequal lobes, pale violet with a yellow throat. Two unequal pairs of black anthers and the ovary with a tuft of hairs at the apex. The outside of the calyx and the corolla covered with a light brown indumentum.

Fruit: A black, ellipsoid drupe, 2 - 3 cm long.

Leaves: Compound, five-foliate. Leaflets obovate to elliptic, the middle ones 22 cm long including the petiolule) by 9 cm broad, unequal at the base. Tough, leathery petiole 14 cm long.

Size and habitat: A tree 10 - 20 m high, of savanna woodland and open country.

Occurrence: A common tree in the Kombos, found at the Kabafita Amenity Belt, in the bush near Busumbala and in the bush near Mandinari village.

Uses: Medicinal; To enable a wound to heal up quickly, chew the leaves and apply the juice to the wound and bandage it up. (Fadyia Kunda, 24/3/79 and repeated at Sutukonding, U.R.D. 24/3/79).

Other: The edible fruits may be seen on sale in the markets during the late rainy season.

Labiatae

This family has twenty-nine genera mentioned by the 'Flora of West Tropical Africa', of which only five have been stated to occur in The Gambia, though several others are likely to be found since they have been noted in neighbouring regions.

The genera noted in The Gambia are as follows: Hyptis, Hoslundia, Leucas, Leonotis, and Ocimum. These are generally annual herbs which flower at the end of the rainy season when they have grown to their full extent.

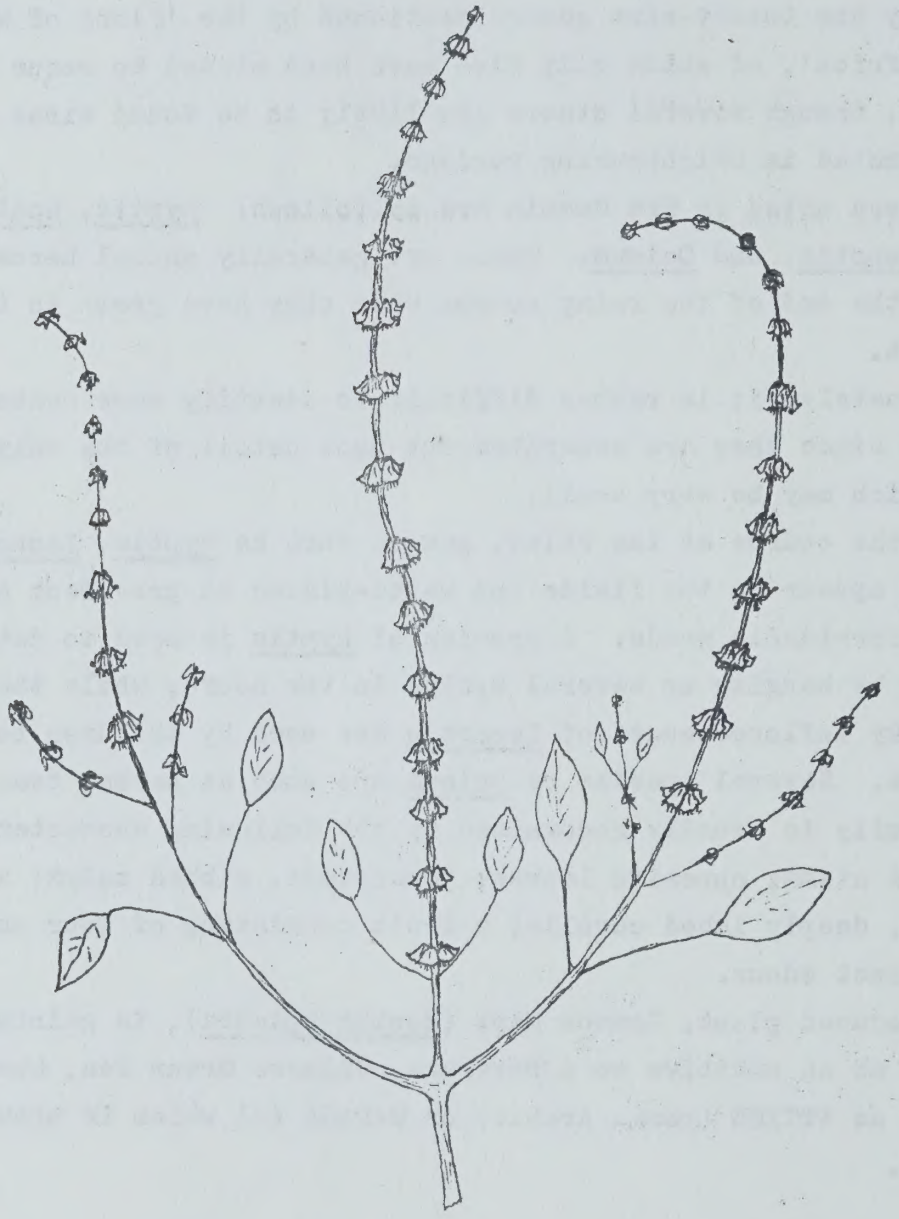
Unfortunately, it is rather difficult to identify some members of the family since they are separated out upon detail of the calyx and corolla which may be very small.

During the course of the rains, genera such as Hyptis, Leonotis, and Ocimum appear in the fields and waste-places as prevalent and sometimes formidable weeds. A species of Hyptis is used to deter mosquitoes by hanging up several sprigs in the house, while the dense, spiky inflorescences of Leonotis are used by children to make simple toys. Several species of Ocimum are used as herbal teas.

This family is usually recognised by the following characteristics: four-angled stems; opposite leaves; persistent, ribbed calyx; a two-lipped, deeply lobed corolla; a fruit consisting of four nutlets; and a distinct odour.

An introduced plant, Common Mint (Mentha spicata), is gaining popularity as an additive to a beverage, Chinese Green Tea, known in The Gambia as ATTIRE (poss. Arabic) or WARAGA (W) which is brewed a great deal.

Ocimum canum



Pressed specimen of flowering and fruit shoot, collected last year (1978) x 1

Ocimum canum Hoary, or American Basil.

SISE JAMBO, FOURENYAMO (M): NGUMGUME (W): SUKORA (F): KAOULUNG (J).

Flower: From October until end of November.

Flowers in groups up the long stems. Mature calyx about 4 mm diameter, upper lobes rounded, lower lobes triangular and pointed. Both lobes longer than the calyx tube. Corolla whitish or greenish-white, slightly longer than the calyx. Stamens slightly sticking out and stigma deeply dissected.

Fruit: Four achene-like nutlets which produce tiny black seeds.

Leaves: Thin, ovate to obovate, cuneate at the base and acuminate at the apex, shallowly toothed round the margin.

Stem square.

Size and habitat: A small, hairy herb 30 - 45 cm high, rather bushy with a somewhat woody base. An annual.

Occurrence: Found in most villages at the sides of paths and on waste places. May be semi-cultivated in some compounds.

Uses: Medicinal; For serious coughs, squeeze and soak the leaves in water and soak overnight. Drink the water the following day.

Cut the leaves, dry, and pound them. Add this powder to boiling water and drink the water to increase the blood (Jiboro village, Kombo Central, 30/11/78).

The foliage is normally dried and used as a condiment. An essential oil is prepared from the plant by steam distillation ('Edible leaves of the tropics' by Martin and Ruberte).

The tiny black seeds are used to clear the eyes of anything which may land on the eye surface. Apply the seeds to the eye and wait thirty minutes, then wipe the foreign body from the corner of the eye.

Zingiberaceae

This is a family of perennial herbs with four genera mentioned in the 'Flora of West Tropical Africa', of which Kaempferia and Aframomum have now been noted in The Gambia.

This monocotyledon family has specialized flowers in which the three sepals are fused into a tubular sheath which is split down one side, which the three fused petals form another tube. One of the petals is enlarged into a coloured hood, whilst the other two are narrow and pointed. The delicate, showy lip (or labellum) is formed from sterile stamens while the fertile stamen is a stout, variously shaped structure with two horn-like processes on the top.

The plant arises from underground stems, called rhizomes, and the leaves grow up in two rows on either side of the stem. Each leaf is attached by a sheath which folds round the stem and at the top of each sheath is a pair of thin, bract-like structures known as ligules.

There are several species of Aframomum in The Gambia.

Aframomum melegueta Melegueta Pepper or Guinea Pepper.

BELENKUFO (This name covers several species) (M): SUMAIS (J).

Flower: During the dry season.

A pink to lilac flower seen growing at ground level before the leaves emerge. The labellum is about 4 cm long and larger than the hood.

Fruit: A leathery, red, conical capsule about 4 - 5 cm long with a beak formed by the persistent calyx. The capsule contains a number of small seeds in a jelly-like mass.

Leaves: Alternate, broadly linear, 20 cm long by 3 cm broad, with numerous lateral nerves on both surfaces of the leaf. Ligule short and rounded.

Size and habitat: A leafy herb up to 1 m high, growing under trees in woodland or in permanent shade in moist places.

Occurrence: In Kabafita Amenity Belt and beside the road from Lamin to Mandinari.

Uses: Medicinal; Pound the roots, mix with salt, and add water. Drink this to free the bowels from constipation and to cure stomach ache caused by worms (Jiboro, 23/11/78; Nanetto, 11/11/78; and Lamin 11/10/78).

The fruit when eaten would help to cure gonorrhoea. The seeds are said to taste like unripe mango (Bala Badji, Department of Veterinary, Abuko, 30/1/79).

CONCLUSION

This report barely scratches the surface of an immense amount of work that still needs to be done.

A more detailed survey is required to verify whether the information that I have collected is just local to places that I visited or whether it is known throughout the country. It is the most repeated and the most well-known of the bush medicines that should first be investigated more closely.

The collecting or raw information, as recorded in this book, is only the first stage of a process whereby a plant could become generally recognized as having medicinal or agricultural value. Robineau, Wone and De Lauture have already made some progress in this area by producing portfolios on some plants of Senegal which are also mostly found in The Gambia.

The effectiveness of bush medicine is a rather hit and miss affair depending upon the time of year and the dilution administered to the patient. There is general agreement that plants are more effective in the dry season when presumably the active contents are more concentrated. With experimentation under controlled conditions of the most well-known bush medicines, the best dosages can be found.

Practical applications of plants for agricultural purposes are presently being developed, for instance as with Neem, Azadirachta indica, at Yundum Agricultural Station where it is undergoing trials as a natural insecticide. However, there is scope for investigation of many other plants mentioned in this book, not only as potential insecticides, but as organic fertilizers and fodder for cattle.

Thus, the reader will see that this information needs to be shared among several Government Departments and other Organizations.

Further courses of action.

Collections of plants for The Gambia have been made in the past, but without special conditions of preservation they tend to deteriorate quickly and get eaten by white ants. However, a reference collection of specimens would nicely complement such illustrations and slides of Gambian flora that are presently available.

When a comprehensive set of medicinal plants with dosages has been worked out for The Gambia, it has been suggested by Dr F.J.Oldfield, of the Pathology Laboratory at Royal Victoria Hospital that an elected representative of settlements with more than 200 people, for example, should be sent for some basic instruction. Each settlement would then have a local medical adviser whose knowledge would be based on medicine derived from plants around him rather than on 'foreign' or distant, unfamiliar things.

There are generations of children now being brought up in the urban areas who cannot recognise common plants of the countryside. It seems that to retain a basic knowledge of bush medicine which has hitherto been handed on by word of mouth in a village community, there is a need to teach school pupils about the uses of plants surrounding them. This teaching could then become incorporated into a school curriculum.

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Appendix

Some unidentified plants listed with their uses in alphabetical order of vernacular names. (Whilst preparing this appendix, some of these plants were identified and this is indicated in the text).

* * * * * *

BOUM BANGO (M)

Description: A climbing or trailing plant with tendrils which grows from an underground stem at the beginning of the rainy season. Produces bunches of clustered flowers and fruit.

Uses: Boil the roots and drink the water to cure stomach ache. Take the roots, scrape off the outer layer, pound the inner root and add palm oil. Apply to sores.

Soak the roots in water, and drink to get rid of worms. This is effective because the liquid becomes slippery.

BUDI DOHOT (W) (Sida acuta)

Description: A weed, usually not more than 30 cm high, which is very difficult to uproot. Produces pale orange flowers.

Uses: Boil the leaves and drink the water quickly after being bitten by a snake. This water could also be used to wash boils on the skin to take out the pus.

BUWA PODONDINGO (M)

Description: A small, slender tree, not very common.

Uses: The leaves, roots and bark are boiled with a small chicken and a marabou's writings. All this is given to a woman who is barren of child, after which she will vomit out the diseases in her stomach and with the help of God, she will get a child in one or two months.

Hunters wash with the juices of the cooked leaves so that they may have good hunting. The roots are made into a juju.

FANJARO (M) (lit. 'self burning')

Description: This is a member of the Monocotyledon group which is only found growing near fresh water, for instance, on the banks of the River Gambia in M.I.D. It grows in swards to about 15 m high with leaf-tips which curl over.

Uses: Cut the roots into small pieces, put them into a bottle, add water and drink. This will cure bone and eye pain, and it also helps women who are barren of children.

KALAKATO (M)

Description: A small shrub or bush with lanceolate leaves whitish on the underside.

Uses: The leaves and bark, when pounded and soaked in water with some salt added, would cure gonorrhoea (Sotoma Sambakoi, U.R.D. 23/3/79).

Hunters use the leaves to bring them good luck. They write Arabic verses from the Koran on each of forty leaves, rub the leaves in water and wash with this (A M Drammeh, Lamin, Kombo North, 29/5/79).

KANIFINGO (M) (lit. 'black pepper') (Piper guineense)

Description: A climber, 10 m long, on trees. Fruit red, or red-brown, when ripe; black when dry.

Uses: The fruit is pounded into a powder, mixed with salt and water, and taken in to help cure serious head-ache and to take out worms from the stomach.

KASSA FOLAY (M)

Description: I have been shown several different plants with this same name, but the most consistent has been a small shrub growing by the wayside and in woodlands, flowering in July. Woody stems quadrangular, with leaves which produce a scent when squashed between forefinger and thumb. Leaves in opposite pairs. Tiny cream flowers on terminal, hairy branches. Inflated orange fruits 1 cm in diameter.

A common shrub 1 to 1½ m high.

Uses: Take the roots, scrape off the outer layer and pound the remainder. Use as a dry powder, or mix with water. Eat or drink to cure 'TIRIBO' (M) - a child sickness in which the body becomes white and the colour of the excreta becomes pale yellow. Both the affected child and the mother should use the medicine.

KULUNSO, KULU-KULU (M)

Description: A medium sized savanna woodland tree with clustered white or cream flowers. A specimen was shown to me by A M Drammeh of Lamin, Kombo North.

Uses: Take the leaves, warm them on a fire and tie them around the body to relieve pain.

Take the bark, dry and pound it and apply the powder on swollen parts of the body to obtain relief. Also roast the pounded bark and apply to areas of internal pain (Sutukonding, U.R.D. 24/3/79).

The pounded bark is said to be poisonous to small animals such as rats and snakes though not to humans (Dasilame, 28/11/78).

A drink made from the soaked bark is given to cattle which have been bitten by snakes. This helps to get rid of the poison (Nanetto, Kombo Central, 11/11/78).

Take the bark and roots of KULU-KULU and JAMBAKATANGO (M) (Combretum glutinosum), boil and add sugar. Drink this mixture to clear poor eyesight and to get rid of constipation (Sutukonding, 24/3/79).

Drink the water of the soaked roots to help kill worms in the stomach. Take the roots, split them up, and boil them one evening and give the water to the patient the following morning. Causes diarrhoea, but help to clear up all hidden sicknesses in the stomach. Too much of the medicine is dangerous for it can make a person go dizzy.

KUNKUTU MANDINGO (M)

Description: A small tree found in the open savanna.

Uses: When pregnant, women drink the water of the boiled leaves to help produce strong children. It is also taken in for stomach pain, coughing and tiredness (Kitti village, Kombo Central, 10/10/78 and also Lamin, Kombo North, 11/10/78).

NYINA TULO or SANDING TULO (M) (lit: Rat or Rabbit's ear)

Description: A stout, fibrous climber with heart-shaped leaves, tiny white flowers and clusters of red berries.

Uses: Boil the roots and drink the water to cure serious stomach pain (Busura, November 1978). The roots when chewed will also cure the same pain.

Soak the roots in a bottle and drink the water to cure stiff back muscles (23/3/79, Sotoma Sambakoi, U.R.D.)

SENO (M)

Description: A small tree.

Uses: Soak the leaves in water for some time and give to children to drink and wash with. Gets rid of child sicknesses such as 'FONYO' (M) (Mansajang Kunda, U.R.D. 16/3/79).

Take the dry leaves, pound, and apply them on to wounds. This would help to get rid of poisons and toxins produced by bacteria in the open wounds (Fadyia Kunda, U.R.D. 24/3/79). Also gets rid of worms and swollen body diseases (Jar Kunda, U.R.D. 24/3/79).

Drink the water of the soaked or boiled roots to get rid of stomach pain and chest problems (Lamin, 11/10/78).

SULU TOMBORONG (M)

Description: A tree or shrub similar to that of TOMBORONG (M) (Ziziphus jujuba) but with vicious spines.

Uses: Use the inner bark, boil and add the oil extracted from milk and drink. Gets rid of stomach pain (Mansajang Kunda, U.R.D. 18/3/79).

Drink the water from the boiled roots for constipation. Take the roots plus those of any tree which crosses under a path, soak in water, drink and wash with the water for chest and side pains (Sutukonding, U.R.D. 24/3/79).

Drink the water of the boiled roots to help prevent bed-watting for people with a weak bladder.

TIMING-TIMING (M)

Description: A name given to several similar small herbs but in one case identified as Scoparia dulcis.

Uses: Leaves boiled and the water swilled round the mouth to cure sores on the gums and toothache.

Take the whole plant, put in water and wash with it for good luck.

In Senegal and French Guinea, an infusion of the plant is used to wash a new-born infant and is given to children who cannot hold their urine.

TULU KUNO (M)

Description: A tree with broad leaves mostly used by Casamance Jolas. Specimen of the tree shown to the author by Pa Cole of Dibba Kunda, Kombo St Mary.

Uses: For rheumatism and body ache, rub the oil on the body in the early morning. The oil is also said to be good for asthma when taken in (Jiboro, December 1978).

The oil is used for embalming purposes.

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